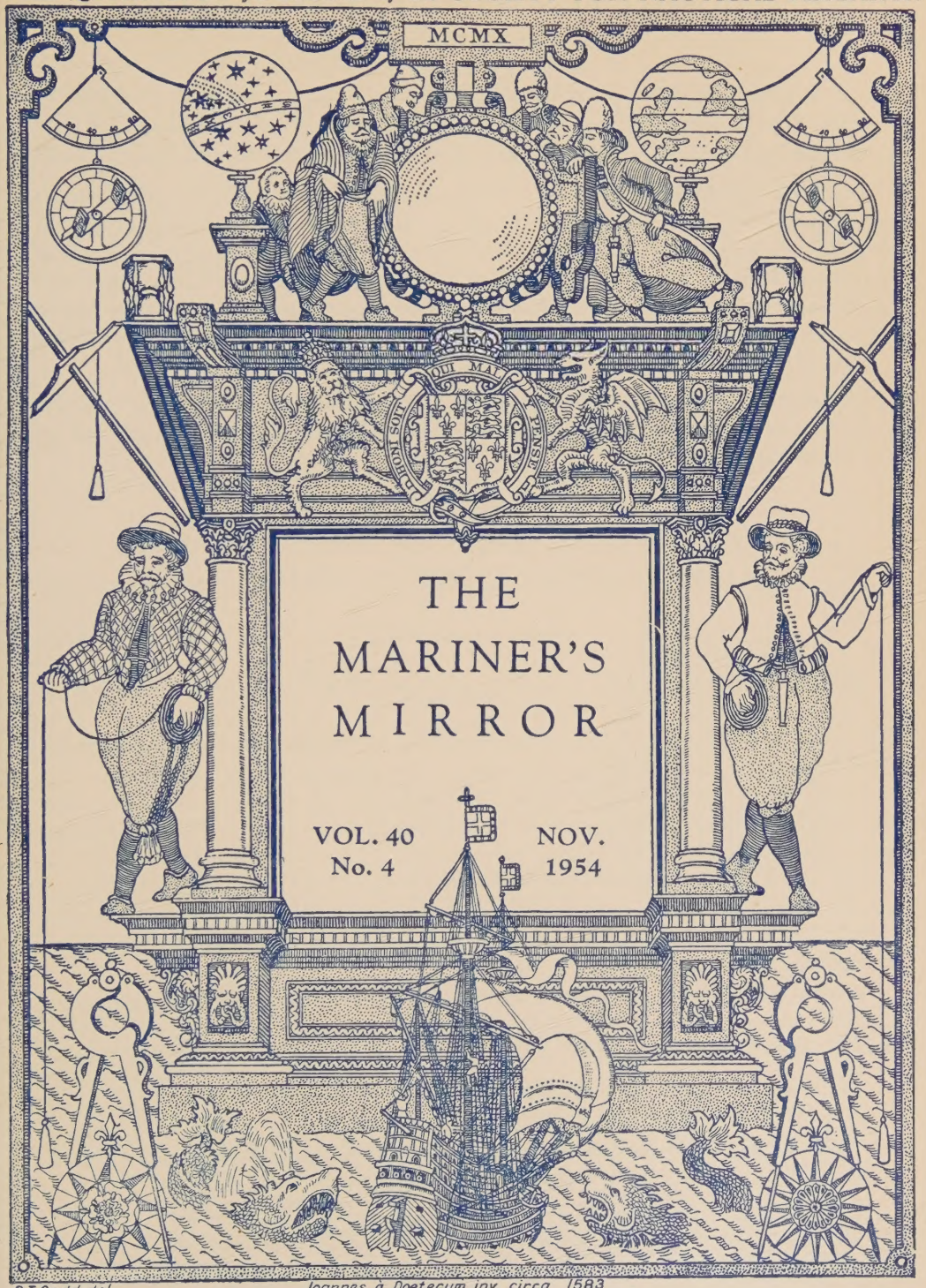
THE QUARTERLY JOURNAL *of the* SOCIETY FOR NAUTICAL RESEARCH



THE MARINER'S MIRROR

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THE SOCIETY FOR NAUTICAL RESEARCH

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To encourage research into nautical antiquities, into matters relating to seafaring and shipbuilding in all ages and among all nations, into the language and customs of the sea, and into other subjects of nautical interest.

The Society has erected a Monument to the Van de Veldes in St James's, Piccadilly, London; raised £107,000 to save Nelson's Flagship and has superintended the restoration of H.M.S. *VICTORY* to her appearance as at the Battle of Trafalgar; paved the way to the establishment of the National Maritime Museum at Greenwich and the *Victory* Museum at Portsmouth; organized exhibitions of Nelson relics and naval prints, etc.; and issued several periodical publications dealing with nautical archaeology, besides an inexpensive set of official plans (ten in number) for building a model of H.M.S. *Victory*.

The annual subscription of one guinea ($3.00) entitles a member to receive *The Mariner's Mirror* and the Annual Report, and a ticket of admission to H.M.S. *Victory*; to attend the Annual Meetings and the Annual Lectures.

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The aim of the Society being to arrive at true conclusions through free discussion, it is distinctly to be understood that the Editor is not held responsible for statements made in the *Journal*.

Contributions and correspondence should be addressed to G. R. G. WORCESTER, ESQ., *Penny Cottage, Pound Lane, Windlesham, Surrey*. Although not absolutely essential, it would be of great assistance to the Editor and the Printers if articles, notes, queries, answers and reviews of books could be typed, on one side of the paper, preferably quarto, with double-spacing and with a wide margin. Owing to the high costs of production, photographs and line drawings to illustrate contributions must be restricted to a minimum, and very few can be accepted for the present, or until conditions have improved.

Names of ships should be underlined to denote *italics*, and not written within inverted commas.

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SALE OF BACK NUMBERS

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The MARINER'S MIRROR

WHEREIN MAY BE DISCOVERED HIS

ART, CRAFT & MYSTERY

after the manner of their use in all ages and among all Nations

VOL. 40. NO. 4 1954

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OBITUARY

By the death of Sir James Caird on 27 September the Society for Nautical Research and the National Maritime Museum have lost a firm friend and an outstanding benefactor, since neither the restoration of the *Victory* nor the establishment of the Museum would have been possible without his generous support, which extended far beyond the mere giving of money. Many rich men have given money to various causes, but few can have shown so much interest in the wise spending of that money and taken so much trouble to look for ways in which further help would be useful. From the time when Sir James first came forward to support and in the end largely to shoulder the Save the Victory Fund to the time, 5 years ago, when he was struck down by illness he never lost his keenness in this respect.

A full account of his benefactions would fill many pages. The most striking were the restoration of the *Victory*, the purchase of the Macpherson collection of prints, pictures and drawings and of the Mercury collection of models, and above all the conversion of the buildings of the Royal Naval School into a magnificent home for the National Maritime Museum, to which he gave both these collections and many more of its most important exhibits.

R. C. ANDERSON

SOME CHRONICLES OF THE LARKINS FAMILY

II. THE WRECK OF THE *HALSEWELL*, 1786

By E. W. Bovill, F.S.A.

IN the eighteenth century sea-faring sometimes brought handsome rewards, but they were gathered at great hazard. Between the years 1761 and 1810 almost one in every four ships employed by the East India Company met what we may call a violent death. About a third of the losses at sea were due to enemy action. The rest were ships wrecked or foundered or, worst of all in days when every Indiaman carried gunpowder, burnt. The toll of life in these losses was usually heavy because it was seldom possible to get a ship's boats safely launched and wooden ships broke up very quickly. Most of the ships recorded as 'foundered' were those which had disappeared and were 'not since heard of'.

The Larkins's, the most prominent family in the Company's shipping, had been lucky in this half century. Only three of the twenty or more East Indiamen in which we know them to have had an interest, either as owners or sworn officers, were lost. These were the *Albion*, wrecked in 1765, the second *Warren Hastings*, captured by the French in 1806, and the *Earl Camden*, burnt in Bombay in July 1810. The family, however, had suffered a tragedy in a ship with which they were less influentially concerned.

When the first *Warren Hastings* returned from China in May 1786, sad news awaited her commander, Captain Thomas Larkins. Five months earlier his eldest son, William, a boy of sixteen, had lost his life in the *Halsewell* East Indiaman. As the ship's papers were lost the only members of the crew whose names are recorded are those of her senior officers so we do not know in what capacity William Larkins was aboard the *Halsewell*. It is highly probable that he was following the family tradition and serving as either a midshipman or fifth mate. On the other hand, he might have been a passenger outward bound to India to take up a writership or some other appointment in the Company's service.

The *Halsewell*, 758 tons burden, was one of the bigger ships in the Company's service when she entered it in 1779. At the time of her loss her managing owner was Peter Esdaile, who had but recently taken her over, and her commander was Captain Richard Peirce who had commanded her since she first went to sea. She had made two voyages, one to China and another to India. She was therefore a well tried ship and commanded by an experienced captain.

Nevertheless, according to the usually accepted narrative of the shipwreck, that of Sir J. G. Dalyell, Captain Peirce's conduct from start to finish was most unseamanlike. Allowance must, however, be made for the chronicler's very inadequate knowledge of the sea which appears to have led him to attribute to the commander actions so foolish and inexplicable that one hesitates to accept them. To do so would be to hold Captain Peirce chiefly responsible for a disaster in which he and most of his ship's company lost their lives.

In November 1785 the *Halsewell* 'fell down' the river to Gravesend where she completed her lading. She then moved down to the Hope where she took her passengers on board. They included seven women; two were daughters of the captain and two more were his relatives. The ship was also carrying 'a considerable body of soldiers, destined to recruit the forces of the East India Company in Asia'.

Whatever young William Larkins's status may have been, he was, if the chronicler of the impending tragedy is to be believed (which he almost certainly is not), setting out under conditions of almost unimaginable felicity.

The *Halsewell*, the chronicler tells us, 'was one of the finest ships in the service, and judged to be in most perfect condition for her voyage. Her commander was of distinguished ability and exemplary character; his officers of approved fidelity and unquestionable knowledge in their profession, and the crew not only as numerous as the East India establishment admits, but the best seamen that could be collected'. Turning to the passengers, it is scarcely necessary to add that 'the ladies were equally distinguished by their beauty and accomplishments; the gentlemen of amiable manners, and of a highly respectable character. . . the whole formed a happy society united in friendship. Nothing could be more pleasing or encouraging than the outset of the voyage.'

They sailed through The Downs in calm weather on Sunday, 1 January 1786. On the Monday the wind got up and that evening, after the ship had run inshore in an unsuccessful attempt to land the pilot at the Isle of Wight, very thick weather came on 'and the wind baffling, she was obliged to anchor, at nine o'clock, in eighteen fathom water. The topsails were furled, but the people could not furl the courses, the snow falling thick, and freezing as it fell. Next morning a strong gale came on from the east-north-east, and the ship driving, they were obliged to cut the cables and run out to sea.' The wind was one which should have taken the *Halsewell* down Channel on her proper course. It is therefore difficult to understand why Captain Peirce should have cut his cables and thus lost his best anchor, a measure so desperate that it would not have been taken except in an extremity such as had not yet arisen. After this inexplicable action by the commander they

hailed a brig bound for Dublin, put the pilot aboard her, and resumed their voyage down the English Channel.

So far the conditions experienced by the *Halsewell* were no more than were to be expected in the Channel at this season, and whatever the passengers may have felt, her commander had not yet had any cause for anxiety for the safety of his ship. Late on Tuesday night, however, it blew a gale from the south so violent that in order to keep the ship off the shore they were compelled to carry a press of sail. In any other circumstances this would have been considered highly imprudent on account of the immense strain which it put on the ship. But there was no alternative if the *Halsewell* was to be kept off the shore. The strain, however, proved too much for her. Trouble arose where a year or so before it would have been least expected. The two hawse-holes in the bow of the *Halsewell* had been fitted with new and, what were considered, improved plugs. These hawse-plugs, contrary to custom, were inserted from inside instead of the outside. The violence of the sea now forced these new-fangled plugs out of the hawse-holes with the result that the vessel shipped a large quantity of water on her gun-deck. On sounding the well it was found that the ship had five feet of water in the hold from which it was evident that she had sprung a leak. The commander had all the pumps set to work. He gave orders to furl the main-topsail and the mainsail but the crew could not do so. At two o'clock on Wednesday morning an attempt was made to wear the ship, that is to say turn her round with her stern to the gale, but this too they could not do. They then cut away the mizen-mast apparently hoping, according to the not very reliable narrative, that this would enable them to wear but, as was only to be expected after depriving the ship of her manœuvring power, they were again disappointed.

The situation was getting desperate. There were now seven feet of water in the hold and it was gaining fast on the pumps. The crew next cut away the mainmast 'as she appeared to be in immediate danger of foundering'—another desperate measure which could have been achieved at far less cost by, say, jettisoning a few guns. In the fall of the mast the coxswain and four men were lost overboard.

The situation now appeared to be less perilous, for they were able to get the ship before the wind, and they held her there for two hours. During this time the pumps reduced the water in the hold by two feet.

At ten in the morning the wind abated considerably but they suffered another blow. The ship, labouring extremely, rolled her fore-topmast overboard and in its fall it tore to pieces the foresail on which they depended for the control of the vessel. They were within sight of Berry Head, just south of Torquay, and perilously close to the shore. A new foresail was immediately

bent, a jury-mainmast was erected and a top-gallant-sail was set for a mainsail. Captain Peirce, realizing the impossibility of continuing his voyage without a refit, bore up for Portsmouth.

At noon on Thursday, the 5th, they sighted Portland, bearing north by east, distant two or three leagues. Having regard to their crippled condition they were making fair enough progress to encourage the hope that the worst was over and that they would now be able safely to make Portsmouth. But the elements decided otherwise. The ordeal they had already experienced was but a foretaste of what was impending.

At eight o'clock that night, with the lights of Portland bearing north-west, they were struck by a strong gale from the south. The commander got his ship's head round to the west, but finding she lost ground on that tack he wore her again and kept stretching on to the eastward, hoping to weather Peverel Point and anchor in Studland Bay. At eleven at night it cleared and Captain Peirce saw that his ship was in great peril. Not more than a mile and a half to leeward was the grim outline of St Alban's Head. There was immediate danger of destruction. Sail was instantly taken in and the small bower anchor let go. The ship rode for about an hour, and then drove. They let go the sheet anchor but after two hours the ship drove again. They could now do no more than fire guns of distress, which they had already been doing for some time, but with little hope of their being heard above the noise of the gale or, if they were, of their bringing relief.

The *Halsewell* was a doomed ship and there cannot have been a seaman on deck who did not know it. With the failure of the sheet anchor in that gale no power on earth could save the ship from striking on the rugged lee shore, now less than a mile away. In the days of wooden ships shipwreck, especially at night, was a far more terrifying experience than to-day. Once a wooden ship struck she might, unlike an iron one, go to pieces at any moment with the probability of very few of her company surviving to tell the tale. To-day a ship may hold together for days, and all that time provide reasonable security for those aboard pending their escape or rescue. A wooden ship striking in the middle of the night during a gale was likely to go to pieces before day-break with little chance of anyone being able to get ashore alive.

Captain Peirce asked his second mate, Henry Meriton, what probability there was of saving the lives of those aboard. He got the only answer he could have expected. There was little hope of saving anyone's life. It would be impossible to use the boats in such a gale, but it was agreed that in case such occasion should arise the 'officers should be confidentially requested to use the long-boat for the ladies and themselves; and this precaution was immediately taken'. The decision does not appear to reflect very favourably

on the commander, but we shall regretfully note other indications that in this hour of crisis he lacked the traditional resolution and courage of the service to which he belonged. His predicament, however, was a singularly grievous one for he had with him his two much-loved daughters whose peril seems partly to have paralysed the powers of independent thought and decision which every commander is expected to exercise in the hour of crisis.

At 2 a.m. on Friday the 6th, the ship struck with great violence. The force of the impact was such that it dashed against the deck above the heads of everyone in the cuddy or dining saloon, where we may presume many of the passengers to have sought shelter, and it brought cries of terror from every part of the ship. Although the chronicler described the crew in his introductory paragraphs as the best seamen that could be collected, he admits that their conduct up to this point had been at least disappointing. Many who had been skulking in their hammocks when they should have been manning the pumps or performing other duties which in their absence had fallen to the officers of the ship and the soldiers, now poured on deck and 'roused by a sense of their danger. . . in frantic exclamations, demanded of heaven and their fellow-sufferers, that succour which their own efforts timely made might possibly have procured'.

The *Halsewell* had struck on some rocks at the base of an almost perpendicular cliff of vast height near Seacombe, on the Isle of Purbeck, between Peverel Point and St Alban's Head. As she beat on these rocks she was quickly holed and filled with water. At this point there is a cave of great length, ten to twelve yards in depth and with almost perpendicular walls, in which the sea was pounding with great violence. The ship lay broadside on to the cave. In the pitch darkness of the storm the ship's company were unable to appreciate the full horror of that forbidding shore on which their ship might go to pieces at any moment. Had they been able to do so they would have seen nothing in the formidable rocks on which their ship lay, in the storm-wracked cave or that perpendicular wall of cliff to encourage hope of greater safety ashore than on board the wreck. Destruction seemed as certain on the one as on the other.

Nevertheless, Meriton advised the crew, who were in terror of the ship immediately breaking up, to gather on the side of the ship lowest to the rocks and seize what opportunities offered for getting ashore. With the passengers in the round-house[1] were—I suggest very improperly—the commander and most of the officers 'offering consolation to the unfortunate ladies, and with unparalleled magnanimity, suffering their compassion for

1 The round-house—called the coach in ships of war—was a large cabin built in the after part of the quarter-deck, having the poop for its roof. Adjoining it was the cuddy in which the officers and cabin passengers took their meals.

the fair and amiable companions of their misfortunes, to prevail over the sense of their own danger', and leaving Meriton to do all the work. The second mate offered some encouragement to this unhappy band of terror-stricken women and their comforters. He was of opinion—or wisely said he was—that the ship would hold together till morning when all would be safe.

The genteel company in the round-house had admitted three black women and two soldier's wives. The seamen tried to force an entrance and were only kept out by the combined efforts of the third and fifth mates. On a chair in the centre of this not wholly creditable scene sat Captain Peirce 'with a daughter on each side, whom he alternately pressed to his affectionate breast'. The other occupants of the round-house sat on the deck which was strewn with musical instruments and broken furniture. The second mate, who alone seems to have retained his sense of duty, brought the women a basket of oranges which helped to compose all except one who was in hysterics.

Any hope which Meriton may have had that the ship would hold together till morning was now rudely shaken. He saw what every ship-wrecked mariner of those days most dreaded. The deck had begun to lift, and with it the sides of the ship were giving way. At these sure signs of impending disaster he attempted to go forward to learn more of the ship's condition, only to discover that she had already parted in the middle and that the fore-part now lay farther out to sea. Perceiving that many of the crew had succeeded in quitting the ship, though with what consequence he did not know, and assured that certain death awaited anyone remaining aboard, he resolved to try to get ashore himself. Sliding down a protruding spar, he fell violently on to the rocks and was quickly carried by the surge into the back of the cave. Here he managed to gain a footing on a shelf where he found another survivor.

Meanwhile, Captain Peirce and the third mate had gone to the stern-gallery to see whether there was any hope of escape for the women from there. Deciding there was none, the commander returned to his daughters and gave himself up to despair. The third and fifth mates, however, climbed from the stern-gallery to the poop and while they were considering what next to do a very heavy sea fell on board and the round-house gave way. They continued to hear at intervals the shrieks of the women above the noise of the sea. As another sea swept the wreck they together seized a hen-coop and were swept off the ship on to a large rock to which they were able to cling and where they found twenty-seven other survivors. Their comparative security was due only to its being low tide and could evidently last only a short time. Some decided to remain awhile where they were but others endeavoured to reach the cave, hoping there to find a measure of security; of the latter, six only succeeded in joining the second mate and a number of

other survivors—crew, seamen and soldiers—who had collected on ledges in the cave. The rest were drowned and the same fate overtook all who had remained behind on the rock.

From their situation in the cave those who had reached the shore and still survived could see the wreck which they momentarily expected to disappear with every sea which broke over her. It was not long before their fears were realized. Within a few minutes the sea closed over all that was left of the *Halsewell* and muffled the shrieks of those left on board as they went to their destruction.

The situation of the survivors in the cave was highly precarious. Some, weakened and benumbed by injuries and exposure in the sea and the cold of a January night, lost their foothold and perished. When daylight came, three hours after the ship had disappeared, it revealed to the diminishing band of survivors the dangers which still beset them. The great cliff was overhanging and precluded any hope of their being seen from above. The gale blew as strong as ever and no boat could live in such a sea. The only hope of rescue lay in the possibility of someone reaching the top of the cliff and giving the alarm. Of those who made the attempt some were too exhausted and, losing their footholds, were dashed to pieces on the rocks below. The cook and a quarter-master succeeded in getting to the top and made their way to Eastington. The steward of the Purbeck quarries, a Mr. Garland, organized a party of rescuers who lowered ropes down the face of the cliff and hauled up the survivors. But the death role continued to mount. Some, unable properly to secure the ropes round their bodies owing to physical exhaustion, slipped and lost their lives as they were being hauled to safety. Two or three died on the way up and a negro expired after reaching the top.

When the survivors, who included the gallant Meriton, were mustered they were found to number seventy-four out of a ship's company of two hundred and forty. About fifty were believed to have been on board when the after-part of the ship went to pieces. All these, of course, lost their lives. Fifty more were believed to have reached the rocks and to have been washed out to sea or killed on the way up the cliff. The remainder must have perished in attempting to reach the shore from the ship. Among the dead was young William Larkins, but when or how he died is not known.[1]

The author is greatly indebted to Captain H. T. A. Bosanquet, C.V.O., R.N., F.S.A., for advice and generous help in preparing this paper.

1 James Northcoate, R.A., painted a picture of the loss of the *Halsewell* which was exhibited at the Royal Academy in 1786. There are also aquatints of the wreck by and after R. Dodd, after T. Rowlandson by J. Mercier, after R. Smirke by F. Jukes and R. Pollard, after T. Sothand by (?) Scott.

THE MUMBLES OYSTER SKIFFS

By R. J. H. Lloyd

THE village of Oystermouth or Mumbles lies within the headland at the most westerly end of Swansea Bay. It is sheltered from winds from the south-west, through west to north, but when it blows from the south or east a heavy swell sets into the bay. At high tide the sea reaches up the shingle beach to within a few yards of the main road, while at low water a great expanse of muddy bottom is uncovered which is well suited for vessels taking the ground.

In 1910 the village was described as 'the home of the Oyster fishermen of the neighbourhood whose boats number about 120';[1] but by then this estimate was very much out of date, the decline of the industry was well advanced, and only fourteen licensed skiffs remained.

For many centuries the oyster fishery had provided the local inhabitants with employment. It had been well established in the seventeenth century and was mentioned in the report of the Duke of Beaufort's journey through Wales in 1684, when the oyster beds were referred to as the best in Britain.[2] At that time the oyster fishermen used open rowing boats, and apart from a few larger decked vessels that may have joined the fleet from time to time, such as the skiffs *Enterprise* and *Freemason* that were fishing for the newly formed Swansea Fishery in 1776,[3] they continued to use the open boats until well into the nineteenth century. By then the majority were equipped with masts and sails, some carried a single dipping lug sail, but many seem to have been rigged with two masts each carrying a gaff headed sail.

This two-masted rig was a peculiar one, though not uncommon elsewhere. It has been referred to as Shallop rig[4] and has been noted in old prints of boats at Bangor, Conway and other places on the Welsh coast. A Dutch picture dated about 1642 shows a yacht rigged in this way[5] and the mast lacing, which is clearly shown, is believed to have been a feature of the Shallop-rigged boats of Swansea Bay. How the rig reached the Welsh coast is not known. It has been suggested that it had developed from the luggers of the west coast of England,[4] but no evidence can be found to confirm this theory, and it seems more probable that it owed its origin to some other source.

In 1816 the oyster boats were taking part in the annual sailing races across Swansea Bay, and started at the same signal as the pilot boats of Swansea and Neath[6] which they may have resembled. A print of the

'Mumbles Lighthouse and Swansea Bay' by William Daniel, dated 1814, shows several Shallop-rigged boats, presumably oyster boats, under sail, while others are pulled up on the beach with their masts unstepped and laid across the thwarts. In this rig the foremast was stepped in the eyes of the boat and the mainmast about halfway between the foremast and the transom or even further aft. Both foresail and mainsail were about the same size. They were loose-footed sails and the mainsail was boomed; no head sails were carried.

When the Swansea Regatta was revived in 1853 a race was arranged for the 'Swansea fishing Skiffs'. This presumably meant what it said and did not refer to the new Mumbles decked skiffs which were about to make their appearance; as the following year there was not only a class for the 'Cutter rigged fishing Skiffs' but also one for the old 'Oystermouth Lug boats, the starting of which used to afford such merriment during former races'. In the 1856 Regatta nine 'Mumbles Dredging Boats' took part, and *Alarm* (R. Michael), *Emma* (Wm. Morgan) and *Happy Jack* (John Burt) were the first three to finish. A year later ten boats entered and caused some excitement 'in consequence of the somewhat antiquated build, style and rig of the boats'. This time the *Blue-eyed Maid* was the first to finish.[7] Up to 1856 only the old type of open boat seems to have been in general use. They are shown in a coloured lithograph by Edward Duncan, dated 1855, to be heavy clincher-built boats characteristic of the period with bluff bows and a transom stern. It seems probable that it was from this type of boat with its two-masted rig that the Swansea Pilot boats had been developed at the beginning of the century, and in some early pictures it is difficult to decide whether an oyster boat or an early type of pilot boat is shown. A witness before the Select Committee on Oyster Fisheries in 1876 stated that there had been about thirty of these open boats engaged in the industry in 1846,[8] while another account states that they were in use in the 1870's,[9] which is almost certainly incorrect.

Towards the middle of the nineteenth century the need for a boat capable of going further afield prompted a number of Mumbles oyster fishermen to travel to Colchester to see the boats that were employed in the fishing there; and as a result of this visit a similar type of vessel was adopted by the Mumbles men. The first skiff to reach the Mumbles was called the *Seven Sisters*[10] and its arrival was an occasion of local importance. In spite of this it is unlikely that there was an immediate change-over to the new type of skiff, and no doubt the old open boats continued to be used for some time afterwards.

The Swansea Regatta in 1859 had a class for 'Swansea and Mumbles fishing Smacks'. There were three entries from Swansea and six from

Mumbles, and the Mumbles boats won handsomely. The first three to finish on this occasion were *Pearl* (Mr Burt), *Sarah* (Mr Ace) and *Royal Albert* (Mr Michael). If these were the same Mr Burt and Mr Michael that were referred to before, they now had different boats from those mentioned in the 1856 race, and it seems probable that they had changed their old open boats for the new type of skiff. In the 1863 Regatta the fishing-boat class was for 'Swansea Bay Dredging Skiffs'. There were twelve prizes and the first prize was an 'electro-plated cup and £4'. It was a 'time race; half a minute per foot keel allowed; 20 boats to start or the last five prizes struck off'. After that it became an annual event and thirty skiffs entered for the 1865 race.[7]

Although the change-over to the new skiffs seems to have become general from about 1858, the arrival of the *Seven Sisters* must have occurred some years earlier, as she does not appear under that name in any of the reports of the early races. During the 1860's the numbers of skiffs increased rapidly, and an estimate of the number in use in 1864 or thereabouts states that 'The number of boats, *all decked sailing craft*, dredging from Mumbles at this period is said to have been 66, while there were 8 similar boats working from Swansea and 22 from Port Eynon'.[11] These were mostly vessels of between 8 and 10 tons and costing about £150 each.[8]

Until 1871 little was done to safeguard the oyster fishery in Swansea Bay and along the neighbouring coast. In 1844 the Mayor of Swansea said that at certain seasons of the year 'boats came and carried off the spawn from the Mumbles oyster beds and deposited them on the coast of Kent'; and he suggested that the council should intervene before the beds were entirely destroyed.[12] No action appears to have been taken, and by 1863 'overfishing and the long intervals separating good spatfalls'[11] had resulted in a decline in the number of oysters; but the demand for them increased 'by reason of the improved transport facilities and strange men and boats came to the Mumbles from other places and no fewer than 200 skiffs and 1000 persons were engaged in the trade'.[10] This was an over-estimate of both skiffs and persons employed, but if Swansea and Port Eynon are included, it was not a very great one, and it gives some indication of the size of the industry in the 1870's.

During this period, millions of oysters were destroyed without regard to age or fitness, while thousands more were taken away to re-stock the beds in the east of England.[2] The consequences were inevitable, the yield began to decline and by 1874 or 1875 the fishery was becoming impoverished and there were more skiffs than it could support. From about ninety-six skiffs in 1863 (another source[2] estimates between ninety and 140) and roughly sixty to eighty in 1866, the number had risen to 188 in 1871 (including

Swansea and Port Eynon skiffs and eleven or twelve from Colchester or Jersey). Seven years later the number had fallen to forty-seven skiffs. A measure of the decline can also be obtained from the figures given for the numbers of oysters taken during this period, which amounted to 9,050,000 in 1873, 6,600,000 in 1874 and 3,810,000 in 1875. By 1894 or 1895 only 600,000 were taken in the year.[11]

Although the Swansea Corporation 'procured an Act of Parliament confirming certain Provisional Orders of the Board of Trade' for regulating the oyster fishery in Swansea Bay and district, which in 1875 and 1876 resulted in about 15 square miles of the fishing grounds being closed for several months of the year, the treatment was discontinued too soon and the decline continued.[11] Subsequently the yield improved slightly for short periods, but the industry suffered a further blow when the Mumbles Railway was extended to the pier in 1892 and the old *horseshoe lay-up*, which was formed by a shingle bank and provided the only shelter for vessels, was filled in. To compensate for its loss the Railway Company agreed to construct a new lay-up in accordance with the following terms: 'a lay up for boats near the said roadway marked 20, if and so far as the existing means and capacity for repairs and laying up of skiffs, yachts or other boats, at or near a place called Horsepool, is interfered with by the Company'.[13] The new lay-up was protected by a breakwater constructed with wooden posts and was known locally as 'The Piles', whereas the old shingle spit had been called 'The Point'. The Oystermouth (Mumbles) U.D.C. did not consider that this new breakwater was an adequate structure and refused to take it over or maintain it.[13] It soon fell into disrepair and successive storms contributed to its ultimate disintegration, so that by the end of the century it afforded little or no protection to the vessels. This was a serious blow to the already declining industry at a time when developments of the mining and other industries were providing attractive alternative occupations for the young men of the district.

It is doubtful if any of the decked skiffs were built at Mumbles. Many came from yards at Appledore and elsewhere along the coast of Devon and Cornwall; and to Appledore they went, as often as not, when they required major repairs. But all the maintenance and smaller repairs were carried out at Mundick yard, which stretched along the foreshore opposite the Mermaid Hotel at Mumbles. It was in use from about 1860 until 1892, and for many years Dick and Raymond Bennett, Teddy Prickett and David Lewis were repairing and fitting out skiffs there. Dick Bennett and Teddy Prickett were ships' carpenters, Raymond Bennett a rigger and David Lewis a carpenter and rigger. They were all self-employed and by all accounts men of strong and independent character.

In the days of the open boats, oysters were taken in Swansea Bay or just outside Mumbles Point. The decked skiffs could go much further afield, and for nearly six months of the year many of them dredged for oysters off the Stack rocks in Pembrokeshire and over the *Abyssinia Haul* near St Gowan's Head, returning each night to Tenby. Others dredged the *Metz Haul* off Porthcawl, the *Jersey Haul* outside Mumbles Head or patches off the Helwick shoals (Fig. 1). All the oyster patches had local names such as the *Bantum*, *Boggy Hole*, the *Black Ones* and *White Ones* (probably the white oyster ledge off Mumbles Head) and they were located by picking up shore marks. Few skiffs, if any, carried compasses, and they must have found it

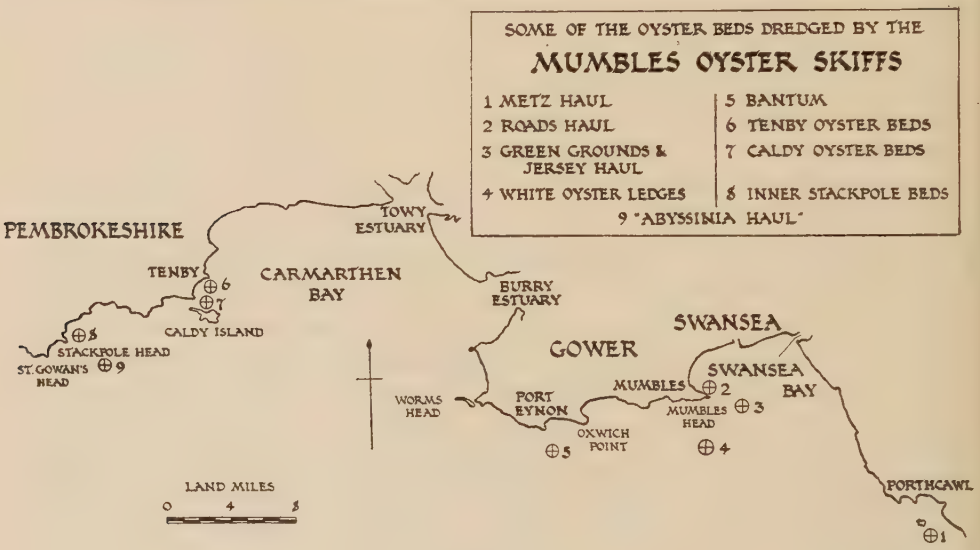

Fig. 1.

extremely difficult to locate the dredging grounds in thick weather. In the late 1880's and early 1890's a number of skiffs sailed north at the beginning of each September to dredge for oysters off the Isle of Whithorn in the Solway Firth. Generally four or five would sail in company and remain away for between two and six weeks according to their luck. Apparently they always brought their catch back to Mumbles and never landed it elsewhere.

From September to November most of the skiffs dredged in Swansea Bay for a larger oyster known as the *Roadster*; and during the months when they were not employed dredging for oysters they used to trawl off Oxwich or in Swansea or Carmarthen Bay, using a beam trawl with a beam about 30 ft. long, or latterly an otter trawl.

The method of dredging was to sail to windward over the patches, then go about and sail down wind towing the dredges over the bottom until the end

of the haul was reached. The skiff would then get her dredges aboard and sail back to windward, repeating the performance by dredging again down the same lane. The dredge weighed about 96 lb.[11] and consisted of a metal scoop followed by a net bag; the lower part of the net was made of steel mesh and the upper part of heavy gauge cord netting. Attached to the leading end of the dredge were three steel rods that met in an eye, to which the tow-rope was bent. Two dredges were towed by the decked skiffs, one over each quarter, while the earlier open boats only towed one. The tow-rope was four-stranded and one strand on the inboard end passed through a hole in the centre of a round wooden block known as a *Gob*. The *Gob* fitted into a slot in the rail, and when the tension of the rope became so great that it was pulled out of the slot it was time to haul in the dredge. A full dredge weighed about half a ton and it was pulled up to the top of the rail with the help of a big mast winch or a steam capstan, and the contents were tipped out on to the deck. The oysters were sorted and put into the hold, while the waste material was shovelled overboard with two shovels kept on deck for this purpose.

The crew numbered three men in both the decked skiffs[2] and the early open boats, and they worked on a share basis, each man being entitled to one-quarter and the fourth quarter going towards the maintenance of the boat and gear. In the days during the middle of the century when the oysters were most plentiful, one skiff was said to be able to take as many as 8000 oysters in a day's fishing,[11] a quantity that would have been sufficient to sink one of the old open boats and is probably an unreliable estimate. By about 1863 a catch of 3000 to 4000 oysters was considered a good day's work.[11]

Early in the nineteenth century, oysters brought into Mumbles by the local boats were sometimes loaded straight into vessels waiting to sail to other places,[14] particularly Bristol;[15] but usually, and invariably after the middle of the century, they were laid down in *Perches*, or holdings marked out by lines of tarred stones on the beach between tide-marks, and kept there until required for market. It was thought that the oysters improved while in the *Perches*[14] and each group of oyster fishermen who worked together paid a small rent for their *Perch* to the Duke of Beaufort, who owned the foreshore.[2] Special areas were laid aside as nurseries for immature oysters (very small oysters that could be passed through a 2 in. ring gauge); these were called *Plantations* and were generally further out than the *Perches*, and uncovered only at low-water spring tides. No oysters were sent to market direct from the *Plantations*.[11] This system of perches had been the same 300 years earlier, when the first Duke of Beaufort made his journey through Wales.[2]

During the eighteenth century the oyster fishing industry spread to the small village of Port Eynon some 15 miles west of Mumbles. The Port Eynon men used a type of open boat similar to that employed at Mumbles, and when the Mumbles men changed from the open boats to the decked skiffs the Port Eynon men quickly followed their example. Up to 1879, when the last oysters were landed at Port Eynon, a number of these craft were employed there, and altogether the industry appears to have flourished for about 150 years. It reached its peak in the 1830's or 1840's, when there may have been up to forty craft in regular use, in addition to several smacks used to take the oysters to Swansea and Bristol.[16] The Port Eynon skiffs are said to have carried a crew of four and usually fished the *Bantum* patches at the eastern end of the Helwick shoals. The season was from September to March, and during the summer months the oystermen were employed in the quarries on the cliff or in agriculture and in repairing the skiffs in readiness for the next season. When the industry at Port Eynon closed down in 1879 many of the men found employment at Mumbles. The last skiff, the *Industry*, lay idle at the quay for some ten years before she was sold to Cardiff.

As was the case at Mumbles, Port Eynon suffered from the lack of a well-sheltered harbour. A rough jetty had been built late in the seventeenth century for the use of small trading vessels, and while this development probably encouraged the expansion of the oyster industry, it provided quite inadequate shelter for the skiffs in southerly or easterly winds.

The system of storing the oysters in *Perches* was used at Port Eynon also, and until recently it was possible to see the lines of tarred stones that marked them out on the beach near the Old Salthouse.[16]

The main reason for the decline of the oyster industry at Mumbles and Port Eynon was almost certainly overfishing and long intervals between good spatfalls. Latterly, the grounds in or near Swansea Bay became polluted by sewage and also perhaps by oil and industrial discharge carried down the Rivers Nedd and Tawe. In 1918–20 there was a great oyster mortality due to disease[17] and after this the grounds never recovered. By about 1925 they had become of practically no economic importance.[8] The lack of any shelter for the skiffs after the wooden breakwater was destroyed was also of great concern to the oyster fishermen; and although there was an almost constant demand for a new breakwater of sufficient size to provide an adequate harbour, and at least one period in the 1920's when plans to build one reached a fairly advanced stage,[13] nothing came of it and the scheme was turned down for financial reasons. Nothing has been done since.

A steadily diminishing number of skiffs continued to dredge for oysters during the early part of this century and by 1913 there were only fourteen

skiffs working, although the oyster beds at that time were said to be in better condition 'than for thirty years past'.[11] In 1914–15 there were nine skiffs and afterwards this number was exceeded only in 1915–16 and 1920–21. The last of the sailing skiffs, the *Emmeline* S.A. 14, remained in service until the season 1929–30,[8] and two motorized skiffs, *Secret* S.A. 173 and *Rising Sun* S.A. 210, continued to work on into the 1930's.

After the Second World War, the South Wales Sea Fisheries Committee investigated the possibility of reviving the industry. They examined many of the oyster patches, but nowhere did they find a 'commercial concentration of oysters'; and as the task of re-stocking the offshore beds would have involved the laying down of millions of breeding oysters the project was considered impracticable. The inshore oyster beds, those in the Plantation and the Roads area, were highly polluted, and although the establishment of an oyster fishery based on these beds was considered possible it was not recommended by the Committee. So it seems that there is no longer any chance of this old industry being revived and that its long history must now be regarded as closed.[17]

A description of the decked skiffs, c. 1857–1930

This description indicates only the main characteristics of the skiffs and the more usual practices in their rig; there were of course many skiffs that differed widely in both hull and rig. The details are based mainly on an examination of a scale model of the skiff *Beaufort* S.A. 22 at the Royal Institution of South Wales at Swansea, the plans of the skiff *Emmeline* S.A. 14 at the Science Museum (Figs. 2, 3) and on information provided by Mr Will Symons of Mumbles.

Hull. In the majority of skiffs the length of the hull varied between 37 and 40 ft. This was found from practice to be the most satisfactory size for dredging for oysters. A smaller boat did not have the power to tow the two dredges, while larger craft tended to tow the dredges off the bottom. The *Emmeline* S.A. 14, which was built in 1865 by William Paynter of St Ives for William Burt of Oystermouth, measured exactly 40 ft. L.O.A. and had a beam of 10 ft. 7 in. Her keel was 31 ft. while the depth of hold was 5 ft. 3 in.

Most skiffs had a graceful sheer with a high bow and low freeboard aft to facilitate getting the dredges aboard. The straight stem had a somewhat rounded forefoot which curved into a long straight keel, while a raking sternpost supported a square counter stern.

The bowsprit was rigged to starboard of the stemhead, while to port there was a fair-lead furnished with a heavy roller to take the anchor or mooring cable. Aft of the mainmast was the hold which was sometimes

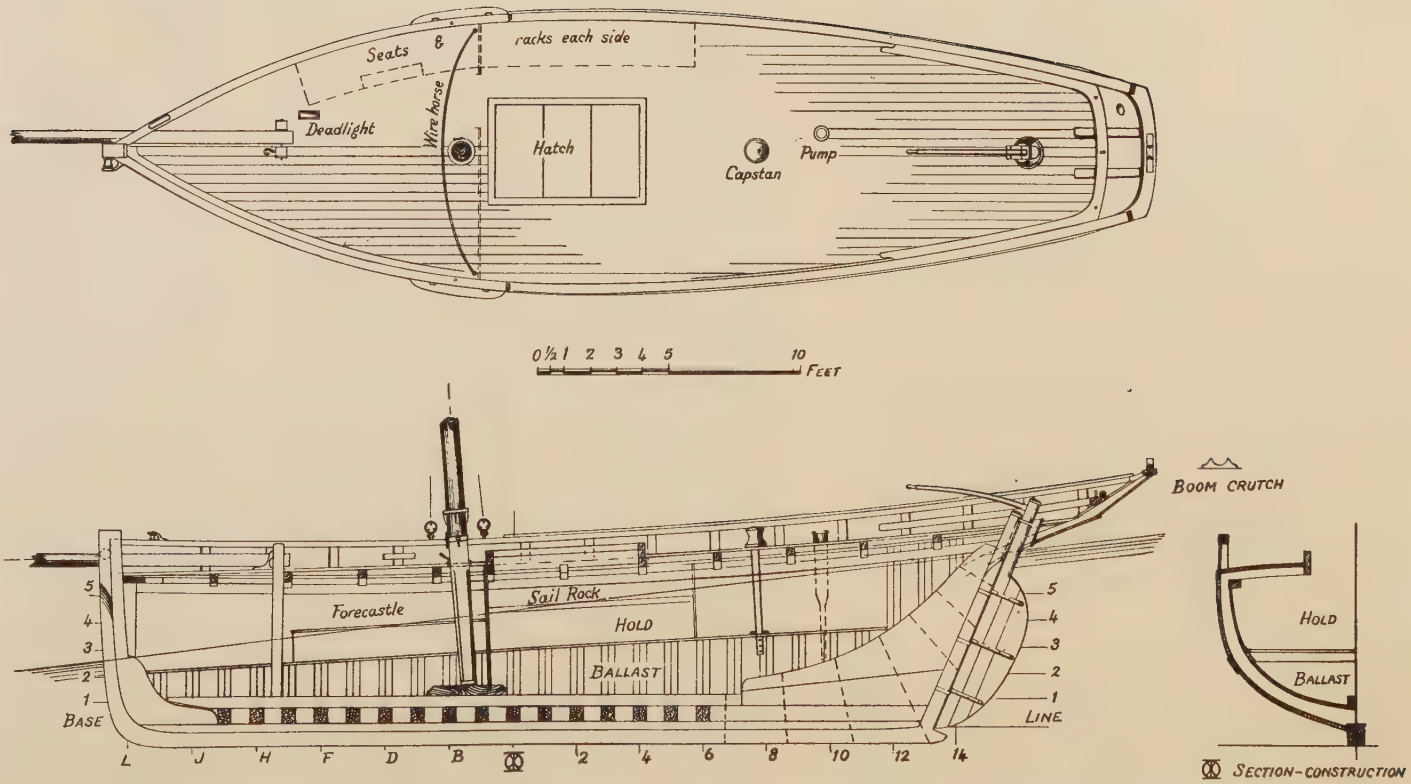

Fig. 2. The oyster skiff *Emmeline*. (From a photograph in the Science Museum, South Kensington.) General arrangement and construction details. L.O.A., 40 ft. × 10 ft. 7 in.; hold depth, 5 ft. 3 in.; keel, 31 ft. Built by Wm. Paynter of St Ives, *c.* 1865, for Wm. Burt, Oystermouth. This plan is reconstructed from details by Mr H. Davies and Mr J. Cumming Evans of Mumbles, South Wales, previous owners, September 1936.

covered with a coach roof, and through it access was gained to the fo'c'sle, though some skiffs had a separate fo'c'sle hatch forward of the mast and generally placed slightly to port.

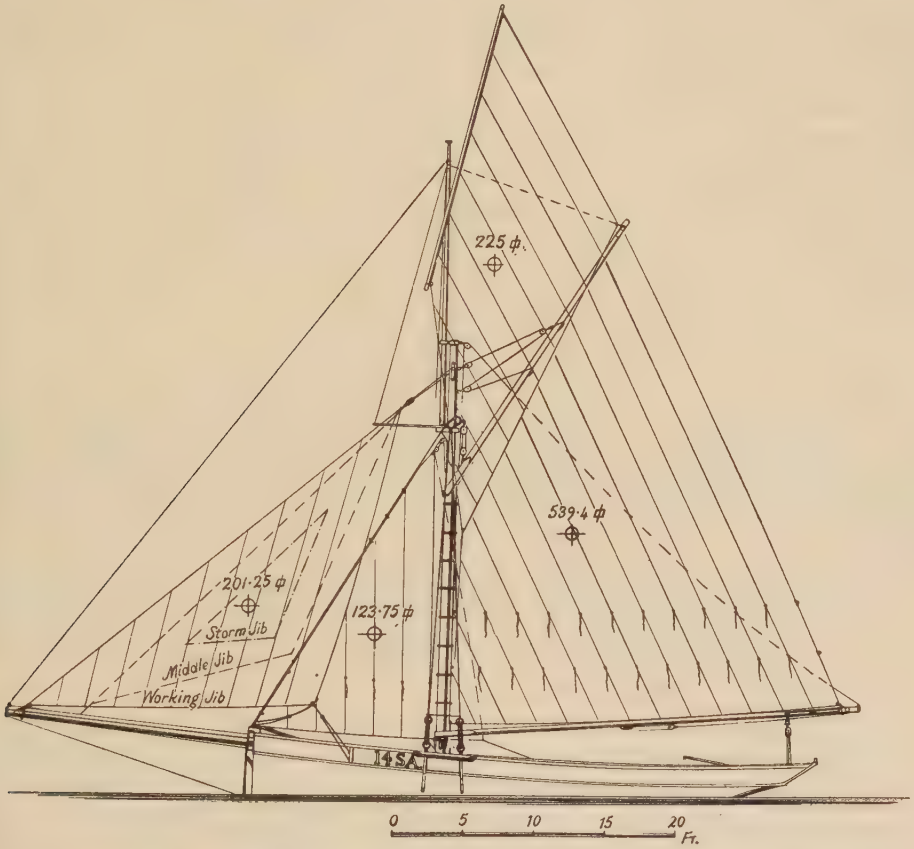

Fig. 3. Oyster skiff *Emmeline*. (From a photograph in the Science Museum, South Kensington.) Sailplan and spar dimensions. Mainmast: deck to cap, 30 ft.; diameter, 8 in.; masthead, 6 ft. Topmast: fid to sheave pin, 18 ft.; diameter, 5 to 3 in. Boom: 29 to 30 ft.; diameter, 5 to 4 in. Gaff: 22 ft.; diameter, 4½ to 3 in. Topsail yard: 20 ft. 6 in.; diameter, 2½ to 3 in. Bowsprit: L.O.A., 24 to 25 ft.; diameter, 6 to 5½ in.; outward 16 ft. 9 in. Total sail area: 1089·4 sq.ft.

Between the hold and the tiller was a bilge pump and sometimes a steam capstan. The steam capstans were first fitted in 1871[11] and were used for hauling up the dredges instead of the mast winch. The helmsman had an exposed position at the tiller with no cockpit to shelter in, and the bulwarks that surrounded the deck were his only protection. With such low freeboard aft the steering position must have been wet and uncomfortable in bad weather.

Copper dross, collected from Swansea Docks, was used as ballast and it was all stowed in the bottom of the vessel.

Masts and spars. The mainmast was rather short, and stepped fairly well forward, and a light topmast, supported by the orthodox rigging, was carried above it. The main boom was long and projected well over the counter, while to balance it there was a very long bowsprit, rigged to starboard of the stempost with its heel secured in the bitts on the foredeck. The jaws of the gaff were strong and the tongue was kept well greased. The approximate dimensions of the mast and spars on the *Emmeline* were as follows:

Mainmast: Deck to cap, 30 ft. 0 in., diameter 8 in. (masthead 6 ft.).

Topmast: Fid to sheave-pin, 18 ft. 0 in., diameter 5 to 3 in.

Boom: 29 to 30 ft., diameter 5 to 4 in.

Gaff: 22 ft., diameter $4\frac{1}{2}$ to 3 in.

Topsail yard: 20 ft. 6 in., diameter $2\frac{1}{2}$ to 3 in.

Bowsprit: L.O.A., 24 to 25 ft., diameter 6 to $5\frac{1}{2}$ in. (outward 16 ft. 9 in.).

Standing rigging. The mainmast was supported by a forestay and two main shrouds on either side. The wire forestay led over a groove in the stemhead, back through a port in the stemhead to deadeyes and lanyard secured to the bitts. The shrouds were secured by deadeyes and lanyards to the chain plates.

The topmast was supported by a topmast shroud on either side and by a fore topmast stay. The topmast stay led down to a block on the end of the bowsprit, while the topmast shrouds led over the crosstrees to blocks and tackle secured to the bulwarks.

The bowsprit appears to have had little support considering its length. There were no bowsprit shrouds, but a bobstay was rigged by securing a rope to the end of the bowsprit. This was hitched under a cleat on the starboard side of the stempost, brought inboard and hauled taut.

Running rigging. Some skiffs had spider bands fixed to the base of the mast to which halyards were secured, but in many cases they were led to belaying pins in the rail on either side. In the model of the skiff *Beaufort* the main throat halyards lead to port while the peak halyards lead to the starboard side. The staysail halyards lead to starboard, and the jib halyards, which are double, have one end belayed on either side. The topping lift leads to port. The main sheets consist of a twofold purchase attached to the boom directly above the end of the counter to which the inboard end is secured. The staysail is sheeted to a horse while the jib sheets are double and lead in through a port in the bulwarks just forward of the staysail horse on either hand, where they are secured to cleats. The topsail sheets pass through a block attached to a long lanyard secured at the hounds and thence to the deck, where it is belayed to the starboard rail. The jib outhaul is orthodox and the inboard end is secured to a cleat on deck.

The arrangement shown on the plan of the *Emmeline* appears to be similar.

Sails. The mainsail was a gaff-headed, loose footed and boomed sail and the luff was secured to mast hoops. It was reefed with reefing pennants and points of which there were two rows, and roller reefing was never used. The staysail was made of the same weight canvas as the mainsail and was furnished with one row of reef points. The working jib was made of lighter canvas, but one or two smaller jibs were often carried for heavy weather and these were made of stronger stuff. The earlier skiffs carried gaff or lug-headed topsails, but latterly they almost all carried large jib-headed topsails.

The skiff *Emmeline's* total sail area was 1089·4 sq.ft., and the following list gives the size of each sail: mainsail, 539·4 sq.ft.; staysail, 123·75 sq.ft.; jib (working), 201·25 sq.ft.; topsail (lug-headed), 225 sq.ft.

Acknowledgments

I wish to acknowledge the valuable assistance I have received from Lt.-Cmdr. T. A. Gibson, Chief Fishery Officer at Swansea, Councillor Harry Libby and Mr Will Symons of Mumbles and Mr W. H. Hanna of the Royal Institution of South Wales, Swansea. I am also grateful to Mr Colin Matheson, Keeper of Zoology at the National Museum of Wales, for much practical help and advice, and to Mr Clarence Smith of Mumbles for a copy of his list of Oyster Skiffs registered between 1869 and 1898.

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THE BUILDING OF THE *HOLY GHOST OF THE TOWER*, 1414–1416, AND HER SUBSEQUENT HISTORY

By Mrs W. J. Carpenter Turner

IN the medieval period of English history an occasional royal ship was built at Southampton, but it was not until the reign of Henry V that any considerable development of the port as a naval centre occurred. This activity was closely connected with the name of William Soper, a Southampton mercer, who not only supervised the building of several royal ships, but also appears to have advanced part of the money for some of them. In 1418 he succeeded William Catton as Clerk of the ships, and the first of his accounts as enrolled at the Exchequer runs for the period 7–10, Henry V.[1] This account roll does in fact include, at the end of the roll, details of certain work which Soper undertook before he became clerk, namely the making of the *Holy Ghost* and the *Gabriel*. It was undoubtedly his successful work on these ships which led to his later appointment. Southampton developed as a naval centre in the years 1414–22 for various reasons. The presence of Soper himself, with his knowledge of available labour supplies and of materials available in the locality, was one obvious factor. It was a great convenience for the King, in view of his intended invasion of France, to have a ship-building centre on the south coast. Southampton also had, and still has, certain geographical advantages, double tides, a position sheltered by the Isle of Wight, and therefore reasonably secure from the French (though not completely safe), and proximity to the timber supplies of the New Forest. Moreover, the Parliament of 1414, to which Soper came as Member for Southampton, had considered a petition from the inhabitants of the town in which they asked for aid in their many economic difficulties and complained of the great decay of Southampton. A vigorous attempt to establish a naval dockyard there would naturally help to provide employment and encourage the retailing and wholesale trades. It may just be possible that Henry V had this factor in mind when he began to build up the royal navy, and it is also possible that Soper's first personal contact with the King occurred at the time of the Southampton petition. It is the purpose of this note to examine Soper's account for the *Holy Ghost*, the first, and one of the most successful, of all the ships added to the royal navy under his superivision.[2]

1 P.R.O. E 364/61.

2 For the building of the *Grace Dieu* at Southampton see *Mariner's Mirror*, 1953 (February).

Work began on the ship in February 1414, and she was commissioned by January 1416. On 8 February 1414 Soper was ordered to take carpenters and other workmen and timber, iron and other necessities for 'the making and amending of a great ship of Spain at Southampton'.[1] His accounts reveal that this was the *Seynt Cler de Ispan* and that the *Holy Ghost* was a rebuild, and a fairly complete one, of this Spanish ship. Incidentally, the *Gabriel*, on which Soper was also working at this time, was not a new ship either, but a refit for the royal service of a Breton ship taken previously as a prize. Soper's accounts show how he used parts of the *Seynt Cler* for the *Holy Ghost* and he indeed describes the former as that ship 'whence the *Holy Ghost* draws her origin'. An order of 4 November 1414 required him to return certain articles to the *Seynt Cler's* Spanish master, but the greater part of the ship was either used for the rebuild or sold off by Soper.[2]

From official sources Soper received a total of £1873. 4*s*. 2*d*. for the rebuilding of the *Seynt Cler* and the refit of the *Gabriel*. To this he was able to add £20 obtained from the sale of a quantity of different sorts of nails, the top, and the little boat from the *Seynt Cler*, though these articles apparently remained on his hands unclaimed by the buyers, and £60. 7*s*. 0¼*d*. from the sale of the cargo of the *Gabriel*. Thus the total amount received for the work on the two ships was £1953. 11*s*. 2¼*d*. The actual total cost was £2027. 4*s*. 11½*d*., and this included the wages of two specialists, a wood-carver and a painter working on the *Holy Ghost*. Thus there was a deficit of £73. 13*s*. 9¼*d*. which was presumably advanced by Soper himself. By far the greater part of the money was spent on the *Holy Ghost*, the refit of the *Gabriel* being a comparatively minor affair costing only £59. 7*s*. 6½*d*., a little less than the amount Soper obtained from the sale of her cargo. Fittings and decorations on the *Holy Ghost* were of a high standard, probably as good as those of the *Trinity Royal* and almost certainly better than those of the *Grace Dieu*, whose obvious defects seem to have resulted in economies when it came to her decoration and dressing.

Soper first lists his expenditure, the buying of necessities, the payments of wages, and his transport costs. His expenditure falls into well-defined groups. He had first of all to provide a certain amount of new material and this is listed, though not always as a specific quantity. Thus he bought timber, boards, iron, nails, 'seruris', sea-coal, pitch, bitumen and wax, towe, lead, brass pitch-kettles, 'oyl terr', skins, 'launc', cables and cords. He

1 *C.P.R.* Vol. 1, Henry V, p. 178.

2 I am grateful to Dr R. C. Anderson for suggesting to me that the *Seynt Cler* may well have been carvel-built; her Master John Martyns, was a Castilian, and it is unlikely that he was in command of a clinker-built ship. It is difficult to imagine how the conversion from carvel to clinker took place during the rebuild.

brought into Southampton a mast from a carrack lately 'in wreck juxta Wyght'. He paid the wages of carpenters, scaffolding workers, shipwright berders, shipwright clenchers and shipwright holders, joiners, sawyers, smiths, caulkers, 'cementers and daubers', paying a varied rate within each class, according to experience, and ranging from 8*d.* to 4*d.* a day. The old ship, i.e. the *Seynt Cler*, was towed round from Hamble to Southampton and left in 'le delfe' where the new ship was made. This must imply some large hollowed-out excavation and 'delfe' is probably equivalent to the later 'Dok'. There is nothing like the list of timber assembled for the making of the *Grace Dieu* and Soper's main purchases were cordage and tackle, a mast, sail-yard and bowsprit for the *Holy Ghost*'s balinger, a mast and sail-yard for her boat and a mast for the Cok. This would seem to imply that the hulk of the *Seynt Cler* was simply re-used as it was, or that the timber in her was taken to pieces and rebuilt with patching where necessary. The former is more likely in view of the comparatively short time taken to build the *Holy Ghost*, and if she thus had an old 'carcass' her comparatively poor state in 1422 is not so surprising.[1] There is certainly nothing in the accounts to imply that Soper was left with the hulk of the *Seynt Cler* on his hands or that he sold it. He received a good many things for which he did not have to pay in ready cash and drew up a list which begins with what he obtained from the *Seynt Cler*, as follows:

1 old ship called *Clare de Ispan* with her gear:

1 mast	1 Toppe[2]
1 sail	1 boat[2]
1 sail-yard	Other small cords for the ship
1 bowsprit	38 Basnettes with 15 Anentall'
3 anchors	9 poleaxes (pollax')
2 cables	8 crossbows

all 'lying in the same ship, and received by William Soper for the work of the King as contained in the roll of particulars'. Soper had not yet fully embarked on his manifold naval activities and the greater part of the *Holy Ghost's* new gear and equipment were bought by other 'prouisors' and given to him for the King's work as were the mast and main-sail of the carrack wrecked off the Isle of Wight.

Materials handed over to Soper for the making of the 'Holy Ghost'[3]

1 mast from the carrack wrecked off Wight	1 mast for the boat
1 mast for the balinger	1 virga for the same
1 'virga' for the same	1 mast for the Cok
1 bowsprit for the same	5 brass 'trokeles' place in 5 pulleys

1 But see note 2, p. 271. 2 Sold.

3 For the method used in transcribing these lists see my previous article on the *Grace Dieu*.

Materials handed over to Soper for the making of the 'Holy Ghost' (continued)

12 pieces of brass used in these pulleys
47 new pulleys
12 great pulleys
46 sheves for pulleys
12 great sheves for pulleys
4 pipes (doukes) for pumps
24 chains for pulleys
10 cable of Box for pulleys
Divers small pulleys and shenes for pulleys
60 oars
6 cables grey thread
2 cables white thread
1 winding rope (thread)
3 couple of cords called shrouds
1 couple head-ropes of grey thread
2 hawsers
1 couple Shetes
1 stay white thread
Divers cords of grey thread
Other small cords of white thread
6 cords called lines
2 pieces of cord called Stroppes
Other small cords

All these things Soper received 'from the buyers for repairing and making the great ship "*Holigost*"'.

From the *Seynt Cler's* gear Soper was definitely able to re-use the mast, the bonnetts, the sail-yard, the bowsprit, boards, bolts, iron chains and different sorts of nails, normally some of the heaviest items of expenditure in making a new ship. Hawsers, cables, lines and cords of all kinds, with pulleys, chains and embroidered decorative standards, were the new things needed for the *Holy Ghost*, especially as some of her new tackle was broken (and had to be replaced) in the course of the raising of her great mast. On 9 January, 3 Henry V, Jordan Brownyng was commissioned to take mariners for the governance of the ship and thus became her first master.[1] On 13 November 1416 Soper handed over the *Holy Ghost* to Brownyng. He drew up a careful list of what he was giving him. The inclusion of sail needles and thread not found in other lists perhaps implies that the sails were not completely finished and that they were made on board under Brownyng's supervision. It was usual at this time for them to be made by sailors. The rare mention of a 'Vorcastell' may also be noticed, though the other great ships must have had them, and also what appears to be the sole example of an article of ship's furniture, two meat tables.

Equipment of the great ship 'Holy Ghost' as handed over by William Soper to Jordan Brownyng, her master[2]

1 great ship of the King Holigost with:

1 mast
1 Toppe
4 crane-lines
4 Bagges
15 couple headropes
'Le Stay' with 3 cords and 4 'Pallansis' of which each has 3 pulleys
2 other 'pallensis', each having 2 pulleys
'le verg' corpus veli'
5 double bonnetts of canvas
1 couple sheets
1 couple takkes
2 couple bowlyns and 2 pulleys
1 hoke, 1 hokrope
4 pulleys with iron hooks
1 couple 'stedyngs' and 4 pulleys

1 *C.P.R.* Vol. 1, Henry V, p. 412.

2 E 364/61.

Equipment of the great ship 'Holy Ghost' as handed over by William Soper to Jordan Brownyng, her master (continued)

2 couple trusses
1 'dryng' and 10 pulleys
1 couple tragetts and 4 pulleys
1 couple yard-ropes and 2 pulleys
12 cords for 'braill', and tailropes
2 hawsers for Warshett'
2 ties
1 tye and 2 pulleys
le trokill of Brass
1 bowsprit
3 cables of white thread
6 cables of grey thread
3 warpyng cables
13 Ankers
1 Daviot and 2 trokelis of brass
2 iron hooks and 2 cords 'in le vorcastell p' tractura Anker'
1 great hawser
14 warpyng ropes and hand-ropes
1 hawser
'Cissam' for buoy ropes
2 tables called 'Mete tables'
2 sounding lines and 2 sounding leads
1 cable for warpyng rope
2 canon
2 secur
1 slegge
1 hamour
6 boriers
2 vilis (files)
2 catabos (pitch kettles)
1 Trevet
8 lb. gun powder
6 'lucernas'
38 Basnettes
15 Anentall
10 Poleaxe
1 iron Crowe
8 cross-bows
2 Wyndasis
24 shovels
4 picks
1 great standard of worsted with image of St George
1 barrel of pitch
1 barrel of tar
2 buoys (1 old)
1 barrel 'p' harnes'
22½ vln' of canvas
2 dozen sail needles
6 pieces of thread
1 piece of twine
2 'tieldis' for covering the aforesaid sail

1 Balinger with mast:

6 couple head-ropes
1 stay and 2 pulleys
1 cord
1 pallanse and 2 pulleys
'la verg' corpus veli' and 3 bonnetts of canvas of Oleron
2 'teyes' and 4 pulleys and cords
1 truss and 2 pulleys
2 'stidyng' and 2 pulleys
1 couple Bowline
1 pulley
2 yard-ropes
1 hoke
1 hokerope
1 couple takkes
1 couple shetes with 2 pulleys and 2 cords
3 cords for braills
3 anchors
1 cable
2 hawsers
1 secur'
1 hammer
1 Catobum
1 Trevet
4 oars
8 Tields

1 Boat with mast:

4 couple headropes
1 Stey
'le verg' corpus veli'
2 bonnetts of canvas
Bowlyns
Shetes
Takks
1 anchor
1 hawser
30 oars

1 Cok with mast:

1 sail
12 oars

'All delivered as shewn by indenture made between Jordan Brownyng and William Soper, 13 November, 3 Henry V.'

The *Holy Ghost* was elaborately decorated with carving and painting. It has often been suggested that most, if not all, medieval ships in the royal service were ornamented in various ways but there is definite evidence in the case of the *Holy Ghost* and her balinger. Robert Brown, a carver, was paid £4. 13*s*. 4*d*. for making a swan and an antelope for her. William Stone, a Southampton painter, and probably the William Stone who sat as member of Parliament for the town with Soper, painted the great ship with swans and antelopes and 'divers arms also with the royal motto called "une sanz pluis" in divers parts of the ship'.[1] Her bonnetts had two coverings of worsted, the larger decorated with an embroidery of ostrich feathers, the smaller 'embroidered with the Holyghost'. At first her gitons were three, of the Holy Ghost, the antelope and the swan, and her standards those of St George and the swan. Later on, her gitons were replaced with two embroidered with the King's arms and with St Edward, and her standards showed the Holy Ghost and the swan. The frequent appearance of a swan as part of the decoration of this ship is not surprising, for it was a badge of the De Bohuns.

The *Holy Ghost*'s balinger, unnamed in Soper's account, was certainly the *Ane* of 120 tons which was built between 18 June, 4 Henry V and following 22 October. John Hoggekyn, the master carpenter, worked on her and, like the *Holy Ghost*, she was elaborately painted. Soper paid John Rendyng of Southampton, 'peyntour', 'for painting the top and the stern', and for decorating the sails. She appears to have cost £179. 19*s*. 1½*d*. and was unusually elaborate for a balinger, undoubtedly because she was used by the King in person for short voyages. She was, in fact, a sort of early royal launch or royal yacht. She carried two standards, unlike other balingers, one of St Edward and one of St George. She had a mast, bowsprit and mizzen-mast, normal in a balinger, but also 'a mast pareill', an unusual addition. Her master was a Randolph Huskard who was ordered on 4 September 1416 to bring 'a new balinger of the King' to the King's presence at Calais and elsewhere with all speed, and to take mariners for her. In the following February he was commissioned to man the *Ane* for her governance at sea. Other balingers were commissioned at the same time, e.g. the *George*, the *Gabriel* and the *Cracker*. Her crew was armed with bows and arrows and she was one of three large royal balingers. On 3 April 1419, Huskard took 100 sailors for the *Ane*, 'to serve the King in the same on his next voyage at sea'. By 1421 the *Ane* was in trouble, as Soper had to inquire into a complaint by a Breton master that his ship

[1] E 364/61 and Devon, *Issues*, p. 339.

had been captured by the balingers *Ane* and *Swan* despite the truce with Brittany. By July 1422 Huskard was in command of the *Graund Marie*, and it is possible that he had been removed from the command of the rather special royal balinger because of the complaints against him. When Henry V died the *Ane* was first kept at Southampton with only a ship-keeper, Henry Dany, on board. On 27 June 1423 she was sold to John Slegge of Saltash for £30.[1]

In 1418 Soper succeeded Catton as Clerk of the ships and so the history of the *Holy Ghost* in the years 1418–22 is to be found in the main and first part of his accounts for those years.[2] Soper had to buy certain things for the ship, including the important flaill for lowering and raising her sail, 4 new cables of Holland thread, 3 Hawsers for upties and handropes, 2 small cords of Bridport thread for cranelines, 6 new sounding-lines, 33 oars, 6 water-scoops, 6 lanterns, 9 spades, 1 hammer, 1 bedewe and 1 cable of black thread. During this same period the *Holy Ghost* made at least two voyages, 'one for the safe-keeping of the Seine' by order of the King on behalf of Admiral Lord Dorset, the other for the Duke of Bedford in 4 Henry V when certain Genoese carracks were captured. As a result of his service in the expedition to Normandy Jordan Brownyng was given a pension of ten marks a year.[3] By November 1417 the *Holy Ghost* was at Hamble. The greater part of her crew was dismissed and Berd was ordered to take six sailors to keep her there, at the cost of a weekly wage bill of 21 pence.[4] Certain defects in the ship were repaired by carpenters, berders, caulkers, clenchers and holders. The total cost was £228. 7*s*. 8*d*. During this period the repair of the ship was under the supervision of Soper, but his working foreman for the job was again John Hoggekyn, the master carpenter. Soper made a careful return of materials used for this repair and maintenance, and under the same heading he also included any worn-out article which was presumably replaced if necessary. They are all to be found with the marginal heading 'Expens' *et* libat' diu'is Naui', sub-heading 'Nauis' Regis voc' holigost'. Presumably some of these items were losses incurred at sea during the naval action of 1417.

Gear and tackle 'expended' in the 'Holy Ghost' 7–10 Henry V

3 couple headropes
2 old yard ropes
2 old lifting ropes
2 'pull anchor' ropes
1 Secur
1 Hamour
1 kettle (i.e. presumably for pitch)
2 Augers
3 pulleys
1 Crossbow

1 *C.P.R.*, Vol. II, Henry V, pp. 73, 82, 267, 324 and 448. E 364/61, E 364/65.
2 E 364/61.
3 *C.P.R.* Vol. II, 1 Henry V, p. 121.
4 *C.P.R. ibid.* p. 144.

Gear and tackle 'expended' in the 'Holy Ghost' 7–10 Henry V (continued)

9 spear-shafts
2 old lanterns
29 measures of iron for the 'Toppe'
3 old Basnettes
4 Bows
23 garb of arrows
1 sail for the boat
10 oars for the boat
1 small countersign of the Holy Ghost embroidered on worsted for covering the sail of the ship
3 Gittons (of the Holy Ghost, Antelope and Swan)
2 standards (St George and the Swan)[1]
2 Hawsers for headropes
1 Bedewe
2 cables of white thread from Bridport
2 cords called Shetes
2 cork buoys for the anchor
2 cables of Bridport thread
1 Hawser for Upties
1 Hawser for Bowline
21 old oars for this ship
2 small crane-lines
4 great cables
2 cables white Bridport thread for shetes
2 Hawsers white Bridport thread for trusses and 'Stetyng'
2 great cables White Bridport thread
2 small sounding lines
6 old great lanterns
3 great Hawsers for Warpropes
2 'lasts' without weight (? empty barrels)
7 great cables of white thread
1 small cable for Wareshets
2 Hawsers for Upties
1 winding Hawser
2 great Hawsers of the same thread for warpingropes
1 cable of the same
2 cables
2 Hawsers for Upties and Handropes
2 small cords of Bridport thread for crane-lines
4 small cords called sounding-lines
11 oars
4 water-scoops
4 lanterns
9 shovels
2 old lanterns
1 cable of Prussian thread
1 Hawser for 'Puall ropes'

(List continues: 4 old oars for the Galley in store at London, i.e. it apparently runs off into the gear of the Galley and the Carrack *George*.)

This list is very much what one would expect, for quite obviously ropes, cords and hawsers of all kinds are just those things likely to wear out before anything else. The standards and gitons may have been damaged in battle and in any case might need renewing after six years' wear.

When the King died in 1422 the *Holy Ghost* was lying at Hamble. The order to sell certain ships of the royal navy made no special reference to any ship by name and in the years 1422/23/24 those that were sold by Soper were the smaller vessels. The great four, *Grace Dieu* (1400 tons), the *Jesus* (1000 tons), the *Trinity Royal* (540 tons), and the *Holy Ghost* (760 tons), remained at Hamble.[2]

The equipment of the *Holy Ghost* was fairly complete and at about the time of the death of the King was as follows:[3]

1 The Swan was a Bohun badge.

2 Tonnage figures for these ships occur in some of Soper's accounts kept at the P.R.O. and in the Greenwich National Maritime Museum MS.

3 E 364/65.

1 Toppe
1 mast
3 couple headropes
1 sail-yard
1 bowsprit
2 pull anchor ropes
8 anchors, whence 1 called Tynketawe had come from the *Trinity Royal*
1 great sail (with 4 bonnetts)
2 trice-hooks
1 hammer
11 pulleys
1 kettle for pitch
6 cannon and 12 chambers
5 cross-bows
1 Grapnell iron with 1 iron chain
26 spear-shafts
57 measures (gads) of iron for the Toppe
24 old Basnettes
6 bows
58 garb arrow
6 old ventailles
1 great boat
1 mast for boat
1 boat anchor
4 oars
1 small boat, Cok
1 worsted standard embroidered with ostrich feathers containing covering for 3 bonnetts of this ship[1]
1 worn streamer embroidered with the *Holy Ghost*
2 Gitons embroidered with the King's arms and with St Edward
2 standards embroidered with the Holy Ghost and the Antelope
1 copper kettle
2 cords called Takkes
1 Hawser for warpropes
1 cable white thread for Shetes
1 iron called Pompyerd
1 cable Bridport thread
1 Hawser for forestay
3 Hawsers for headropes
2 Hawsers for backstays
2 Hawser for Bowlyns
3 oars for the small boat
1 Mekhoke
1 small cable for buoy ropes
2 old lanterns
3 great cables of white thread
1 small cable of white thread for wareshetes
2 great Hawsers of white thread for warpropes
1 iron called 'flayll' for the windlass
1 cable
2 Hawsers for upties and handropes
1 small cord called 'sondynglyn'
22 oars, for this ship
2 water-scoops
2 lanterns
1 iron called hamour
1 iron called Bedewe
2 small cords called 'Sondynglyn'
1 cable black thread
2 small cords called Cranelines
2 buoys
2 truss pulleys[2]
2 Braill pulleys[2]
1 secur[2]
1 Hawser for winding ropes
1 anchor from the store called Tynketawe and first belonging to the *Trinity Royal*[3]
2 cables of Lynn thread
3 Hawsers of Lynn thread

This may be considered to be the most complete of all Soper's lists of the *Holy Ghost*'s gear at a time when she was still on active service.

For the subsequent history of these four great ships we must turn to later accounts of Soper and his successor Richard Clyvedon. It is possible to trace not only gradual break-up of the *Trinity Royal* and the *Holy Ghost*, but also the refit of the *Jesus* and her disposal to two members of Cardinal Beaufort's household, and the destruction by fire in a thunder-storm of the great *Grace Dieu*, with the subsequent attempts to salvage what was left of her. It is obvious from the first of the accounts of Henry VI's reign that

1 A covering for the fourth Bonnett appears to have been that embroidered with a design of the *Holy Ghost* which was worn out or damaged between 7 and 10, Henry V.

2 These had apparently come from the old ship *Nicolas*.

3 Tynketawe thus appears twice in the same list.

the Council's decision to sell part of the royal navy was certainly not meant also to imply a neglect of ships which remained in the royal service.[1] During the period 10 Henry V to 5 Henry VI Soper spent £70. 7*s*. 5*d*. on the repair and maintenance of the *Holy Ghost*, a fairly large proportion of the total of £298. 12*s*. 8*d*. spent on all the four great ships. At first the *Holy Ghost* continued to lie off Hamble and there were only shop-keepers on board her, paid at the rate of 3*d*. a day 'to keep her safe'. She was leaking badly and there were also defects in her boats which had to be mended. Sand and water had to be thrown out and a general attempt was made to mend the 'leakages, rents and fissures' and 'clear the obstruction beneath the ship'. Soper had a contract for this sort of work with an experienced diver who is described as 'swimming under the ship, clearing obstructions, and mending rents and fissures under the water'. Some of these defects are obviously the result of the clinker-built construction of the ship, and some may have been the normal effects of wear and tear and old age. (We do not know exactly how old the *Seynt Cler* was.) Soper was careful to mention that the poor state of the ship was the result of damage by gales. In any case it became obvious that she could not be repaired where she was and there may also have been a Council decision to take out and sell her detachable gear. Money was paid for her 'shoryng' in a newly constructed dock, for her further repair and for the extraction of her great mast. She was probably the first of the great four to be docked on the mud and it was the beginning of the end. Ironically enough, Soper was still unpaid for the monies he had advanced at the time of her making and the refit of the *Gabriel*. The dock was some distance from Hamble and the men on board the *Holy Ghost* were given an allowance of cider, bread, fish and candles as well as their wages.

In the years that followed she remained on her mud berth, gradually degenerating despite fairly continuous attempts to mend her defects and to stop her leaking. Very gradually her gear, especially the tackle and cordage remaining on board, decayed, though some of it was sold and other things worth removing were taken to the various royal store-houses. Soper had sold the long store at Southampton but he was forced to rent more accommodation in the town for the many pieces of naval gear already accumulating from Hamble. During the years 5 Henry VI to 31 August, 11 Henry VI the *Holy Ghost* was apparently in the care of her old master, Jordan Brownyng, who probably appears in this account, the third of Soper's, as 'Jordan Bron'.[2] He was guarding the ship and throwing sand and water out of her. During the whole of these six years Soper only had £889. 14*s*. 8*d*. to spend on all his ships and the *Holy Ghost*'s account is much

1 For the sale see E 364/65 and G.N.M.M. MS. 2 E 364/69.

the shortest of all. By the time Soper's fourth account was enrolled at the Exchequer, that for the years 11 Henry VI to 15 Henry VI, a period for which one of his books of details has also survived, the eventual destruction of the *Holy Ghost* was inevitable.[1] The extraction of her great mast had not apparently been successful for it was described as broken. Her great sail, 'Corpus' and four 'Bonnetts' had been sold to John Steynour of Southampton.[2] The 25 spear-shafts surviving from her original equipment and 25 garb of arrows were passed on to a balinger, the *Little Jesus* (which Soper was preparing for the royal service), as were the 'two small cords called cranelines'.[3] Three great cables of white thread, one small cable of white thread for wareshetes and two great hawsers for warpropes were passed to the great *Grace Dieu*. The *Holy Ghost*'s decorations, the worsted covering for three bonnetts embroidered with ostrich feathers, a worn streamer embroidered with the Holy Ghost, the two gitons, one embroidered with the King's arms, one with St Edward and two standards of the Holy Ghost and the Antelope, had all been removed to the great wardrobe, as had also apparently her copper kettle and some of her hawsers and cables.

Soper was succeeded by Richard Clyvedon whose two accounts cover the period 1441–6 and 1446–51.[4] It is of interest in the history of naval administration that he refers to Soper as his Controller. Thus the appointment of Banastre in 1423 cannot be regarded as an isolated example. Clyvedon was also paid at the rate of 'twelve pence a day as William Catton was', an additional proof that Soper's appointment was a break in the traditions of the Clerks of the navy and that his activities were, in many respects, quite unusual.

There has survived in the Public Record Office an interesting document in the form of a small roll in a contemporary leather bag.[5] The roll consists of a list of ships and stores remaining in the royal navy by 8 April, 20 Henry VI, when Soper was succeeded by Clyvedon, and handed over to him the custody of the ships, including 'Nauem d'mi Regis vocat' holigost de la Tour debilem'. Her equipment then was as follows:

8 anchors
2 Trice hooks
1 Hamour
9 pulleys
1 kettle
5 great bows
1 Grapnell with iron chain
57 measures of iron for the 'Toppe'
24 old Basnett
6 old Bows

1 Enrolled accounts E 364/71. Details E 101/53/5.

2 8 November, 13 Henry VI; probably a painter. There are other examples of the buying of sails by painters.

3 The *Little Jesus* had been the great boat of the *Jesus*, and was previously known as the *Graund Folower*, cf. Hants Field Club *Proceedings*, Vol. XVIII: Pt. 2. "The Little Jesus of the Tower," by Mrs W. J. Carpenter Turner.

4 E 364/81 and E 364/86.

5 E 101/Bundle 53, No. 37.

32 garb of arrows
6 old 'Ventailles'
1 boat anchor
1 kettle
1 pump-yard
1 mekhoke for sail
1 flaill for the windlass for raising the sail
1 Hammer
1 old Bedewe
170 pieces of cork in the store

The first of Clyvedon's two accounts show him selling various pieces of gear from the *Holy Ghost*. The actual body of the ship was beginning to break up or be broken up, and he obtained £54. 0*s*. 4*d*. from the sale of the old 'cabanes' from the *Trinity Royal* and the *Holy Ghost*. Clyvedon's second account refers to the *Holy Ghost* as submerged and 'now broken and old'. Four labourers, paid at 5*d*. a day, were still working on her and also on the remains of the burnt-out *Grace Dieu*, getting what they could salvage. Anything thus obtained was taken by sea to the quay at Southampton. It was left to Clyvedon's deputy (Clyvedon himself was a mere courtier), William Fletcher, to deal with the one still useful piece of gear from the *Holy Ghost*. This was the great anchor called 'Tynketawe' which we learn from this account to have been 15 ft. 11 in. long and 11 ft. broad. It was passed on to Henry Capron, Deputy for John Taverner, master and former owner of the *Grace Dieu of Hull*, a very large ship purchased into the royal service. By 1451, of all the glorious and great array of the *Holy Ghost*, only Tynketawe remained on active service for a royal master.

MERCHANT SHIPPING IN THE SEVENTEENTH CENTURY

THE EVIDENCE OF THE BRISTOL *DEPOSITION BOOKS*

By Patrick McGrath

PART I

THERE are in the Bristol Record Office six volumes known as *Deposition Books* which supply a mass of detailed information concerning merchant shipping in the seventeenth century.[1] The depositions were sworn statements made before the magistrates by people who wished to put on record evidence which might later be required in legal or other proceedings. The volumes in question cover the period 1643 to 1687 and are concerned with many other matters besides those relating to the sea, but naturally maritime affairs were of particular importance in the great seventeenth-century port of Bristol, and a crowd of merchants, masters, masters' mates, boatswains, gunners, pursers, shipwrights, surgeons, and seamen, most of them Bristolians, but a number from other ports and some of them from abroad, trooped into the Tolzey of Bristol to record, often in an interesting and lively fashion, the most varied information concerning losses at sea, damage to cargoes, shipwrecks, piracies, capture by the enemy, ownership, bills of lading, insurance, and a hundred other subjects relating to the ships and the men who sailed in them. The merchant whose vessel had been captured by the enemy; the master anxious to show that he was not personally responsible for leaking casks of wine or grain ruined by salt water; the factor with a complaint against ill-disciplined sailors; the sailor whose wages had not been paid; the passenger with information about trading with the enemy in the Civil War, were but a few of the many witnesses who 'did depose and affirme upon their corporall oathes voluntarily taken vpon the holy Evangelists of God' those statements which give such a vivid picture of merchant shipping 300 years ago.

The depositions do not unfortunately provide much information about shipbuilding in seventeenth-century Bristol. It is true that we learn that

1 Vol. I (1643–7) has been edited by Miss H. E. Nott, and Vol. II (1650–4) by Miss H. E. Nott and Miss Elizabeth Ralph for the Bristol Record Society (Bristol Record Society's Publications, Vol. VI and Vol. XIII). Vol. III (1654–7), Vol. IV (1657–61), Vol. V (1661–7) and Vol. VI (1673–87) have not been printed. In this article, the abbreviations, *Depositions* I, and *Depositions* II, refer to the volumes printed by the Bristol Record Society. For the other four volumes, references are given to the original manuscript volumes in the Bristol Record Office.

one ship, *The Love's Increase*, was 'built of the Stocke at the Key in Bristoll by one William Bullock Shippcarpenter' who became part owner of her;[1] and that another, the *Sampson*, of 200 tons, was built in Bristol and that a half share was acquired by a couple of Bristol merchants.[2] We also know that the *Pearl* of Bristol, 200 tons, was 'built with a square sterne and a pearle carved and painted in the same';[3] that the *Hare* of Bristol, 20 tons, had 'the head and sterne painted all black without a Topp with the figures 1658 carved in the sterne';[4] and that the *Phoenix* 'hath the picture of a Phenix guilted in the sterne'.[5] Such details, however, are comparatively rare, and this is all the more unfortunate as so little seems to be known about the building of merchant ships in seventeenth-century Bristol.

There is, on the other hand, a good deal of information about tonnage, and even when we take into account the difficulty of comparing seventeenth-century tonnage with modern tonnage, we are struck by the small size of the vessels which undertook such long and perilous voyages. Of forty-two ships whose tonnage is given in the first *Deposition Book*, only five were of 300 tons or over;[6] 10 were between 200 and 300 tons; three were between 100 and 200 tons; and twenty-four were under 100 tons. The later records do not show any marked increase in tonnage. A vessel of 400 tons was rarely found; approximately a third of the ships were of 200 tons or more; less than a third between 100 and 200 tons; and rather more than a third under 100 tons.

The depositions confirm the evidence from other sources that the greater part of Bristol shipping was owned by merchants, but that the masters often had a share in the ships they sailed.[7] The list of owners also included a sprinkling of coopers, shipwrights, sailmakers, vintners, and widows. It was the general practice for ships to be divided into shares, so that owners might spread their risks in what was a very risky business. Thus, the *Fellowship* of Bristol, burthen 250 tons, was divided between a number of merchants, of whom John Peterson held a quarter share; Michael Deyos, Robert Vickris, Gabriel Deane and James Powell one-eighth share each; and John Willoughby, three-sixteenths.[8] Richard Long, merchant, held a three-eighths share of the *Richard and Francis* with her 'tackle Amonition and appurtenances';[9] Anne Pearson, widow, owned a quarter share of the *Nevis Adventure*;[10] John Peterson the elder and John Peterson the younger

1 *Depositions*, I, 178. 2 *Depositions*, I, 47.
3 *Depositions*, V, 68. 4 *Depositions*, V, 74.
5 *Depositions*, V, 83.
6 Of these five, two came from Amsterdam, one from London, and two from Bristol.
7 See Patrick McGrath, 'The Merchant Venturers and Bristol Shipping in the Early Seventeenth Century', *The Mariner's Mirror*, Vol. XXXVI, no. 1.
8 *Depositions*, IV, 27, 28. 9 *Depositions*, II, 12. 10 *Depositions*, V, 129.

jointly owned a three-quarters share of the *White Dove*, 120 tons;[1] and William Hore in 1645 held three-sixteenths of the *Meere Maid*, 50 tons, an eighth of the *Neptune*, 80 tons, and an eighth of the *Globe*, 200 tons.[2] Halves, quarters, eighths and sixteenths were the usual fractions into which ownership was divided.[3]

There are some indications of the value of the ships, but they are only a rough guide since they do not tell us the condition or age of the ships in question. A tenth share of the *Bristol Merchant*, 400 tons, was estimated to be worth at least £600, giving a total value of £6000, and a value per ton of £15.[4] On the other hand, an eighth share of the *Elephant and Castle*, 200 tons, was worth £250.[5] The total value was therefore £2000 and the value per ton only £10. The value of the *Meere Maid*[6] worked out at just under £6 a ton;[7] the *Neptune*, 80 tons, at £7 a ton;[8] the *Richard and Francis*, 80 tons, at a little over £7 a ton;[9] and the *Katherine* of Portsmouth, 40 tons, at just over £6 a ton.[10] The *Lily* of Bristol, 80 tons, with tackle, guns, furniture and apparel, was worth £600 or just over £7 a ton,[11] while the *Jonathan* of Bristol, 55 tons, was said to be worth £622 and upwards, or over £11 a ton.[12]

The depositions give a good deal of information about the business side of merchant shipping including the cost of chartering ships and the charges for carrying freight. Thus, in 1651, two merchants, Robert Vickris and Peter Beckett, deposed that their ship, the *Content* of Bristol, 100 tons, was taken to freight by three other merchants at the rate of £40 a month 'in equall thirds euery man for himselfe and not one for another', for a voyage to the Caribbean islands and thence to France or England. The voyage took a year and the cost was nearly £500, but after some allegations made by the merchants who had chartered the ship, this was reduced to £430. One of the freighters was a merchant who travelled out with the ship but did not return with her and did not apparently pay his share of the charges. The owners took counsel's opinion and were advised that whoever received the goods upon the ship's return was liable to pay the freight. They therefore began a suit in the Admiralty Court against one of the merchants, John Knight, 'and after some money and tyme spent in that Court', it was agreed that the matter should go to arbitration. John Knight was eventually ordered to pay the cost of the freight and 40*s*. towards the charges in the case.[13] When the *Elephant and Castle* of London, 200 tons, was put under an

1 *Depositions*, v, 130. 2 *Depositions*, i, 214, 215.
3 For later practice and legislation, see Grahame E. Farr, *Records of Bristol Ships 1800–1838*. (Bristol Record Society's Publications, Vol. xv, pp. 10–13.)
4 *Depositions*, i, 104, 105. 5 *Depositions*, i, 120.
6 Presumably *Mermaid*. 7 *Depositions*, i, 214, 215.
8 *Depositions*, i, 214, 215. 9 *Depositions*, ii, 12. 10 *Depositions*, v, 141.
11 *Depositions*, iii, 198. 12 *Depositions*, ii, 110. 13 *Depositions*, ii, 79, 80.

embargo from December 1643 to September 1644 by the royalist party in Bristol, the aggrieved master claimed that he had lost eight months' employment 'which he then might have had at the rate of one hundred sixty and eight pounds per moneth'.[1] This was a very high rate compared with that in the previous illustration. No doubt there was some wishful thinking on the part of the master, but the disturbances of the time and the risks of capture during the Civil War made freight charges unusually high. The *Margaret* of Bristol, 70 tons, was hired from its owners, a ropemaker and a merchant, at the rate of £26 a month 'for the bare hull', for a twelve months' voyage to Youghall, St Christopher's, and back to England or Ireland.[2]

Freight charges were also based on the tonnage carried. When the *Marigold* of Bristol, 80 tons, was fitted out for a voyage to Spain and back, the owners undertook to set forth the ship completely and to furnish eight guns, the freighter reluctantly agreeing to pay £5. 10*s*. a ton for freight, 'being a verry exessive rate'.[3] In another case, the bill of lading of a ship bound from Nevis to Bristol refers to a small cask of indigo which was to be delivered to the merchant in Bristol 'he or they paying freight for the said goods after the rate of 3*d*. per lb. with primage and avarage accustomed'.[4]

When a merchant or his agent loaded goods into a ship, a bill of lading was made out, often, it appears, in triplicate, and was signed by the master and by the factor of the ship. The merchant retained one copy, and this copy was often produced as evidence after the ship had been lost or captured. The following will serve as an illustration of the form generally used:

Shipped by the grace of god in good order and well condiconed by me Gabriell Blyke of the Citty of Bristoll in and vppon the Good ship called the Daniell of Brist*oll* whereof is Master vnder god for this present voyadge Mr John Haskins and now riding to Anchor in the Road of Nevis and by gods grace bound for Kingsayle and Bristoll (to say) one small Caske of Indigo being marked and numbred as in the margent and are to be deliuered in the like good order and well Condiconed at the aforesaid port of Bristoll (the danger of the seas onely excepted) vnto Mr Giles Merrick of the Citty of *Bristoll* or to his assignes he or they paying freight for the said goods after the rate of 3*d*. per lb. with primage and avarage accustomed. In witnes whereof the Master or purser of the said ship hath affirmed to 3 bills of lading the one of which 3 bills being accomplished the other 2 to stand voyd. And soe god send the good ship to her desired port in safety amen. Dated at Neavis this 7th November 1659.[5]

The bill of lading mentions the marks which were put on different parts of the cargo to distinguish their ownership. These marks were often simply the initials of the owners, but sometimes they were more elaborate as appears from numerous illustrations in the *Deposition Books*.[6] The marks were

1 *Depositions*, I, 157. 2 *Depositions*, II, 187.
3 *Depositions*, II, 186. 4 *Depositions*, IV, 164. 5 *Depositions*, IV, 164.
6 See, for example, *Depositions*, I, 175; II, 147, 148. For a study of these marks and numerous illustrations of them, see H. E. Hudd, 'Bristol Merchant Marks' in *Proc. Clifton Antiq. Cl.* Vol. VII, pt. II.

important for identifying particular consignments on vessels which often carried a large number of goods for different owners. One deponent gave evidence that when he was in St Christopher's he saw two rolls of tobacco lying in a storehouse with other goods to be loaded on the *Charles* of Bristol. They were 'marked at the ends of them on the Crosse sticks there (called the windmills) for Richard Elsworthy, as the vsuall custome there is for the account of each mans goods'. The witness saw one Roger Kennis, who was part-merchant of the ship, 'take one of the said Rolls being a bigg one and weigheing neere about 80 li weight...and scrape the said Richard Elsworthies name out of the stick, and in the same stick marked the role with the bunch of grapes being the generall marke for the shipps whole Cargozeen'.[1]

The depositions also contain a certain amount of evidence about the insuring of ships and their cargoes. The practice was growing in the seventeenth century, even though some merchants were prepared to take the risk of loss in order to save the cost of insurance. *The Merchants Avizo*,[2] a very interesting and informative little hand-book for budding merchants, written in Bristol in the late sixteenth century and published early in the seventeenth century, is full of good advice on the matter of assurance which was to be 'after rate of 7 upon the 100' (7%) and was to be 'of as much force strength and effect as the best and most surest policie or writing of assurance which hath beene euer heretofore vsed to be made in Lumbard Street or now within the Royal Exchange in London'. Policies were to be made 'according to the vse and custome of the said streete or Royall exchange'. A number of Bristol merchants acted on this advice and when they heard news of their losses at sea they hastened to put on record that at the time they made the insurance, they had no knowledge of the losses. Thus in 1656 John Pope of Bristol, merchant, aged forty years or thereabouts, stated that when the ship *New Anne* of Bristol, 140 tons, sailed from Bristol to Lisbon he had aboard goods to the value of £200 and upwards, that he had insured thereof only £200 'in the Insurance office London', and that when he insured his goods he 'did not know nor was enny way informed that the said ship was taken nor did heare by any others but that she was in safety at the time of the said Insurance'.[3] Similarly in 1649 the widow of Richard Long deposed that when the *Richard and Francis*, 80 tons, sailed for Barbados her late husband, who owned a three-eighths share in her, had

1 *Depositions*, I, 191, 192.

2 *The Merchants Avizo Verie Necessarie for their Sons and Seruants, when they first send them beyond the Seas, as to Spaine and Portingall, or other Countries* Mad by their heartie well wisher in Christ, I. B. Merchant...At London Imprinted by John Norton 1607.

3 *Depositions*, III, 132.

'one policy of Ensurance made and registred in the Royal Exchange London';[1] and the merchants who owned cargo in the *Fellowship* of Bristol, which was taken by a Spanish man-of-war, made a sworn statement that 'at the tyme that they the deponents did make or Cause to be made their last insurance vpon the said ship and her ladeing they the said deponents nor any or either of them did know or had any manner of Intelligence of knowledge of the said ships being taken'.[2]

During part of the Civil War when Bristol was in the hands of the Royalists, it was not possible for Bristolians to insure at the Royal Exchange, and the business seems to have been transferred to Amsterdam. In 1644, for example, William and Robert Cann affirmed that they had put on board the *Tiger* of Amsterdam, 260 tons, certain goods which had subsequently been taken by a Parliament ship in the Severn. William Cann stated that before the ship sailed he had instructed Mr William Watson of Amsterdam to get an assurance made there on the merchandise.[3] The year before, Humphrey Hooke instructed William Watson to take out a policy on corn which was to be laden on the *Sampson* of Bristol bound for St Sebastians. Hooke said that the ship had been taken by the Parliament forces and that he did not expect to get any satisfaction for his loss except from the Insurers at Amsterdam.[4]

Evidence from other sources suggests that not all merchants followed the practice of insuring their goods. John Barker the elder directed in his will that if he had any adventures abroad at the time of his death 'Then yt is my will that the said adventures shalbe presentlie assured in London';[5] while yet another John Barker stated 'my will is that my wife shall with all convenient Speede next after my decease cause all myne adventures then on the Seas or beyond the Seas to be assured'.[6]

The *Deposition Books* do not throw a great deal of light on the work of the customs officers in the port, and although defrauding the customs was an occupation of considerable importance in seventeenth-century Bristol, most of our information about it comes from other sources. There are, however, a few statements of interest in this connexion, and one or two may be noted. In 1646 William Barwick, one of the officers of the Customs House and a Tide Waiter to the ship *True Love*, related how Thomas Weston, merchant, brought home various hogsheads of tobacco and deposited some of them with the Customs Officers as security for the payment of £60 due

1 *Depositions*, II, 12.
2 *Depositions*, IV, 28.
3 *Depositions*, I, 66.
4 *Depositions*, I, 91.
5 Patrick McGrath, 'The Wills of Bristol Merchants in the Great Orphan Books', *Trans. Bristol and Gloucestershire Arch. Soc.* Vol. LXVIII, p. 99.
6 *Ibid.* p. 100.

for custom on the tobacco. Barwick said that he was one of the officers 'that had a Locke vppon the said goods' but that 'his locke was taken of and the tobacco caried away contraree to this deponent(s) consent and without his privitie, by whom this deponent knoweth not, onlye he hath heard that two and twentie hogshede of that Tobacco came to the hands of Mr John Wright merchant'.[1] On another occasion, Matthew King, who was waiter and deputy searcher for certain pills, harbours and creeks belonging to the Port of Bristol, came to Axbridge and required the Constable of the town to assist him in searching for certain tobacco on which no duty had been paid, but which had, he believed, been privately brought to the town. The deputy searcher and the constable located the tobacco and seized it, and the deputy searcher 'drawing out a peece of Chalke did therewith make a marke vppon the said Tobacco. And besides tooke a peice of (it) from one of the rowles thereof by which itt might be known of what sorte and goodnes it was of and therevppon the said Mathewe King caused the doores of the said rometh to be made fast with two locks'.[2] In this case, the locks were not broken.

The numerous wars of the seventeenth century and the threats from Turkish pirates even in times of peace made it necessary for most of the merchantmen to carry considerable armament. In 1626, when privateering was the rage in Bristol, large vessels like the *Charles*, 250 tons, and the *Angel Gabriel*, 220 tons, carried twenty pieces of ordnance each and were considered capable of carrying four additional pieces.[3] One of the depositions states that when the *Marigold* of 90 tons was fitted out in 1645 for a voyage to Spain, the owners agreed by charter party to provide eight pieces of ordnance. The witness said that £10 had to be paid to Lord Hopton's secretary, and various other sums had to be disbursed among the Canoniers, in order to obtain two of the guns belonging to the *Marigold* 'which were amounted on the workes of the Cittie of Bristoll'. He added that 'the said 2 Gunns were the best that they had that voyage in the ship and were worth at least 40 li, the like Gunns could not then be procured for money, and that by the blessing of god and the haveing of the said Gunns they freed themselves from the Turkes with whom they had a tedious and desperate fight'.[4]

A great deal of the evidence in the *Deposition Books* relates to the condition of cargoes. In general, the master of a ship was responsible for any damage that might be sustained from the time he took over the goods

1 *Depositions*, I, 135. 2 *Depositions*, I, 180.

3 Patrick McGrath, 'The Merchant Venturers and Bristol Shipping', *Mariner's Mirror*, Vol. XXXVI, no. 1, Appendix 2.

4 *Depositions*, II, 186.

until he delivered them safely at the end of the voyage. The master was not, however, responsible for loss resulting from certain causes such as bad weather, piracy, enemy action or fire, unless of course his negligence contributed to the damage. Masters were obviously very anxious to safeguard themselves against any claims that might be made, and when they arrived in Bristol, they often hastened to the Tolzey with various witnesses to put on record their side of the case. The merchants, on the other hand, were not averse to proving negligence when possible, and a number of the depositions from factors, sailors, and others were clearly intended to show that damage could have been avoided if reasonable precautions had been taken by the master.

One of the most difficult cargoes to handle satisfactorily was wine, which played a big part in the seventeenth-century trade of Bristol. Casks which were full when they were taken on board in France or Spain were often far from full when they reached Bristol, and masters were very much concerned to show that the casks had been properly stowed during the voyage and that leakage was not the result of negligence on their part. Thus in 1646 the master of the ship *Content* of Bristol called in Ethelred Edwards, a Bristol pilot, and Martin Bacon, master's mate of the ship *Thomas* of Yarmouth to 'view the riseing of one butt of sack, which was leakt out'. This unofficial Board of Inquiry reported that 'the Butt in question lay as well Bedded and Quoyned, as any of the rest that came home sound'. They thought that the leakage might be due to wormholes, and they were quite sure it was not the result of bad stowage.[1] On another occasion, two mariners viewed the ship *Phoenix* of London. They saw four butts and one hogshead of sherry 'two of which butts were halfe out and the other two almost halfe out and the hogheads somthing above halfe out'. They reported that the wine was well stowed in the hold of the ship and that 'what quantity of wine as aforesaid leaked out of the said Caske was by reason of the badnes and insufficiency of the Caske and not by any neglect in the stowadge'.[2] In another deposition, the master and mate of the *Anne and Katherine* of London stated that while in Dublin they had been requested to view the wines in the *Providence* of Bristol. They made a sworn statement that 'the damadge by leakage of the said wynes was not occasioned by stowing thereof but by reason of the insufficiency of the Caske being and lieing soe long aboard the said ship having soe long a passage by reason of contrary winds and fowle weather'.[3]

Cargoes of oil and of sugar might also cause difficulties. The three mariners who inspected the casks of oil in the *Happy Entrance* arriving in Bristol from Marseilles reported that they 'were all stowed with corke and

1 *Depositions*, I, 171. 2 *Depositions*, IV, 282. 3 *Depositions*, II, 30.

Coynes according to the usuall Custome of merchants there';[1] while a sailor who said that while walking on the Key of Bristol he had been asked by the master to come on board the *Robert*, then unloading a cargo from Barbados, deposed that he found that the chest of sugar which he was asked to inspect was 'stowed cleare of the decke very neare five inches, and was stowed fast from runninge to and againe'.[2]

Although masters and owners of ships could not be held responsible for damage to cargoes resulting from the dangers of the sea, they might be held responsible if it could be shown that their ships were not really sea-worthy or in proper repair before they set sail. This no doubt explains why the master of the *Hopewell* of London, the pilot of the ship, and three of the crew went on record with statements of the various storms they met in their voyage from London to Bristol. They said that 'they shipped many seas and some damages could not but happen to the goods aboad by that meanes', but that the damage was wholly due to the weather which made the voyage go on for nine or ten weeks and that it was not caused 'by anie insufficiency of the ship beinge a newe built one'.[3] But not all vessels sailing from the port of Bristol were shipshape and Bristol fashion. One witness stated that before the *Mary Rose* set out for Newfoundland, he told one of the owners 'that he did not beleeve that the said ship Mary Rose was stanch betweene wind and water'. The owner retorted that 'she was firme enough'. In fact she proved leaky 'insomuch that there was found a foote and a halfe of water vpon the Cealing amongest the salt which spoyled a great quantity of salt and likewise of bread'. Certain ships which set out two days later arrived in Newfoundland fourteen days before her and had already taken on between four and five thousand fish when she arrived.[4]

Masters were also very anxious to prove that none of the cargo had been stolen while in their charge. Thus the master, the master's mate, the boatswain, the gunner, the cooper, and one of the crew of the *Robert* of London deposed 'that they are not guilty of diminishing the Carkeson or ladeing of the said shipp' and that they had delivered to the merchant the whole quantity of grain entrusted to them 'except ½ a hogeshead of Sweepings which the master is ready to Deliver';[5] and the master, boatswain and one of the company of the *William* of Yarmouth swore that the whole lading of corn taken on board in France had been delivered to the key of Bristol and 'noe abuse donn to the merchants' for they had not touched at any port, and when the grain was brought up in lighters from Hungroad to the Quay 'some or one of them came vp in every lighter' and 'they veryli beleue that all the wast in the whole lading . . . could not be above thre or four Bushelles

1 *Depositions*, IV, 249. 2 *Depositions*, II, 40.
3 *Depositions*, I, 144. 4 *Depositions*, II, 13. 5 *Depositions*, I, 185.

and that in the stowage by runing betweene the matts and the like'.[1] On another occasion, William Shapely of Bristol gave evidence that he shipped at Cadiz in the *Humility* bound for Malaga where they delivered all their goods 'except two bottles of spiritts which they drank when they were wett'. On the way back from Malaga, they met ten days of very bad weather 'whereby they were forced to stove one Butt of Malliga wine, fower barrells of water, and three barrells of beere for the preservation of the ship and goods, there being two foote and a halfe of water in the hold'.[2]

The heaviness of the sea or the insufficiency of the casks could not, however, always be produced as convenient explanations of why some of the cargo disappeared in transit, and sailors were sometimes found to give evidence on behalf of the merchants. One of the liveliest of the depositions is that of Thomas Hackwell, mariner, aged 26 or thereabouts, sailing in the *Tiger* of Amsterdam, 300 tons, from Malaga to Bristol carrying wines and fruit. He stated that he 'at seuerall times tooke notice of, and saw the Carpinter Gunner and one Jacob goe downe into the Hould of the said shipp where the wynes lay and were, and that it was their vsuall and constante practise during all the voyage homewardes to drinke and tipple of the said wynes all day long and most nights likewise, and this deponent doth the better know it because he hath seene the said Carpinter Gonner and Jacob at severall times bring vp wines in runlets and distributed it to the rest of the Company to drink in a wastfull manner and hath seene them drunken and overtaken with wines many times and seldome otherwise, which wynes this deponent conceiveth might haue ben kept from them, neither could they have come to it, had the Master vsed his diligence in preventing of, which he might have done had he placed Iron barrs over the Hatches'. He went on to say that he had heard some of the company tell the merchant on the ship that the wine in question was 'a part of a butt of wyne which leaked out'. He also stated that he had seen the fruit broken into, and that he believed if the merchant had spoken of it or complained he might have been in danger of his life, for when he checked one of the crew for being drunk 'he was stroke immediately by him'. The witness added, what was presumably evidence of further negligence on the master's part, that there 'was but one Catt aboard'. Evidently this was less than a reasonable establishment of cats for a ship of 300 tons.[3]

The *Deposition Books* naturally throw a good deal of light on the men who sailed in these seventeenth-century merchantmen, but before we consider the ship's company, we may glance at the evidence relating to the ship's factor or merchant. His job was to keep an eye on the interests of the merchants whose goods were being carried in the ship, and he often under-

1 *Depositions*, I, 134. 2 *Depositions*, V, 108. 3 *Depositions*, I, 49–51.

took the responsibility of supervising the cargoes of a number of different merchants. Sometimes there was more than one factor on board to share the responsibility. The factor was often a young merchant gaining experience. There must, we imagine, have been a certain antagonism between the seaman and the landlubber, and the conflict of interests became even more acute when the cargo was edible or drinkable. The factor of the *Tiger* of Amsterdam, was, as we have already seen, far from happy since he was in some personal danger from a drunken crew. Moreover, the ship's master was not helpful, and at the end of the voyage, the factor complained that he had been compelled to leave part of his cargo behind because the crew were always ashore drinking and the master would do nothing to stop them.[1] Another factor, one Lawrence Hurston, grocer, aged thirty or thereabouts, complained that when he arrived at Chepstow in 1645 with a cargo from Barbados the governor of Chepstow took four rolls of tobacco out of the ship. This, he said, could have been avoided and the ship could have sailed away without loss if the carpenter and others had not been on shore at the time. He also complained that the boatswain, secretly and without his consent, had loaded a certain quantity of tobacco on the ship, so that he was unable to get all his own tobacco on board. He had been compelled to send it in another ship which had been taken by the rebels.[2]

The difficulties that might face a young man acting as factor are seen from the case of Thomas Wright, aged 21, a merchant of Bristol who was agent for his father in the *Charles* of Gloucester bound for the Canaries. The ship put in at Falmouth, and the young man went on shore to do some business. He stated that he had given notice of this to the master, William Phelps, but that when he finished his business, he found the ship had sailed off without him. He was, however, a young man of initiative, and in his own words, he 'therevpon . . . imediately travelled to Plimouth, from thence to the Ile of Weight and therehence to London and not finding any passage att any of the said ports for the Iland of Canaries this deponent tooke passage from London to Holland and from thence to the Canaries where this deponent arived sixe dayes after the said Phelps set sayle from thence, in which Jorneys and passage cost this deponent aboue thirty pounds sterlinge in all'. He further stated that he had been under instructions from two Bristol merchants to get help from Mr Gowen Paynter, a merchant resident in the Canaries, in selling the goods in the ship and taking on a cargo of wine for the return journey. The master had apparently refused to discharge the goods and had gone on with them to Santa Cruz, subsequently writing to Mr Paynter saying that he would not return with the cargo and that it might as well be discharged in Santa Cruz. All this meant a loss of

1 *Depositions*, 1, 50.

2 *Depositions*, 1, 99, 100.

at least £100 and 'in regard the said William Phelps would not come from the Port of Stt a Cruse hee could not Lode any good wines but such as he could get there which is the worst sort of Wynes in the Iland, and but fifty pipes of wines neither, and there by the said shipp come home to this port one hundred and fifty pipes of wyne dead fraight'. Finally, Mr Paynter also told the deponent that 'the said Mr Phelps desired him that he would not wright home to his merchants sayinge if you doe I am vtterly vndone'.[1]

Another occasion on which the ship's factor showed initiative and courage amounting to foolhardiness is given in a description of the voyage of the *Love's Increase* from Bristol to Ireland and the West Indies. The ship was leaking so badly that she was forced to put back to Kinsale where 'one of the Company left the ship, and the rest were resolved and Thretned to doe the like, and in order there vnto some of them Carried on shore their Chests but by the persvasion of Mr Francis Hooke factor of the said ship and by reason of a very faire wind the remain of the Ships Company proceeded in her in the said voiadge'.[2]

Most of the statements on the *Deposition Books* give only one side of the case. The full story may well have come out in proceedings before the Admiralty Court, but except for one or two papers, the records of the Admiralty Court in Bristol have not survived. It is probable that some of these young factors who were just beginning their careers as merchants sometimes thought they knew more than in fact they did and had not always learnt tact and restraint. According to the evidence of the carpenter of the ship *Submission* sailing from Zante to Bristol, William Bullock the younger, merchant of the ship, 'coming out of his Cabin in the morning . . . said to the said Master that his ships Top saile was downe. Then the said Smith replyed to the said Bullock that his eyes were not well opened, whereupon the said Bullock gave him a box in the yeare'.[3] Unfortunately, we do not know what happened next.

1 *Depositions*, II, 90, 91. 2 *Depositions*, IV, 11. 3 *Depositions*, V, 45.

(To be continued)

THE ENGLISH DOGGER

By G. J. Marcus

THE dogger played no inconsiderable part in English maritime enterprise of the later Middle Ages. Originally an importation from Holland, it was a type of craft almost peculiar to the east coast; and though nothing is known about either its construction or rigging it is certain that it was both seaworthy and of a fairly substantial size, ranging from 30 and 40 tons to sometimes 80 and even more. As a rule the dogger was used for fishing, but was sent occasionally on trading voyages. Numerous references to these doggers are to be found in contemporary sources throughout the fourteenth and fifteenth centuries. In 1337 the Icelandic annals record that a Norwegian abbot and his men were murdered, and their bodies pitched overboard, by some English 'doggerers'. In the Statutes of the Realm, 31 Edw. 3. c. 1, mention is made of 'all the ships called doggers and lodeships, pertaining to the Haven of Blakeney'. There is a reference in *Foedera*, Vol. III, p. 977, to a crew of thirty mariners on board the *Mary*, a dogger of Cley impressed for the King's service in 1373. In 1413 'John Spytelynge, Robert Helys, Robert Reman, John Hastynge, Thomas Glaveyn, Geoffrey Pampynge, John Berde, Richard Stoteville, John Stoteville, Simon Thurkylde, Thomas Quyche, masters of ships and little ships called "doggers" now in the port of Great Yarmouth' were allowed 'to pass hence to sea with their ships and seamen in order to catch fish and bring it to England'. About the same time William Mariot of Cromer and others were licensed 'to take two ships called "doggers" to foreign parts to take fish, notwithstanding any mandate of the King for the arrest of ships', etc.[1] Doggers are first heard of in the North Sea; but early in the fifteenth century large numbers of them were used in the Iceland fishery. It was in all probability an east coast dogger which arrived off the coasts of Iceland in 1412. Next summer, according to the Icelandic annals, there sailed out from England 'thirty fishing doggers and more'. It was during this year, 1413, that we first hear of the lawless and predatory behaviour for which these 'doggerers' of the east coast ports were later to become notorious. Some of the fishermen who sailed round to the north coast of Iceland went ashore and took some cattle, for which (not knowing the language) they

1 Storm, *Islandske Annaler*, p. 208; *Calendar of Close Rolls*, Henry V, Vol. I, p. 7; *Calendar of Patent Rolls*, 1416–22, p. 89. See also *C.C.R.* 1381–5, p. 261; *ibid.* 1396–9, p. 446; *ibid.* Henry V, Vol. I, pp. 316, 392; *C.P.R.* 1436–41, pp. 41–2; *ibid.* 1446–52, p. 479; *Black Book of the Admiralty*, ed. Twiss (1871), Vol. I, p. 273.

'put down money'. But another party which had landed for the same purpose on Papey, an island off the south-east coast, went off with the cattle without paying for them. The depredations of English seamen in Iceland during the next decade were set out in a comprehensive indictment by the governor, Hannes Pálsson.[1]

From this time on the Iceland fishery was systematically exploited by the English. Year by year a large fishing fleet—principally from the east coast ports—made the long passage to Iceland. Some of them fished off the north coast in Skagafjörd; but more often they worked the great flat which fringes the whole west coast—their principal centre, perhaps, at any rate during the early years of the traffic, was the Vestmannaeyjar, a group of islands lying off the south-west coast, where was said to be the best fishing in all Iceland. In 1500 the Althing protested that the English, lying in the offing with their larger craft and long lines streaming down the tide, were spoiling the inshore fishing for the Icelandic fishermen in their small boats. This complaint was reiterated in 1532 in a letter addressed by the Danish king, Frederick I, to Henry VIII. The doggers had always formed a fairly substantial proportion of our Iceland fleets. Towards the close of the fifteenth century, when most of the commerce with Iceland came into German hands, they continued to work the fisheries, and monopolized the English share of the traffic entirely; by this time the larger English merchantman had virtually disappeared from the Iceland trade.[2] The doggers could also carry out with them a certain amount of merchandise; but the export of grain, as may be seen from the following letter of Henry VII to the Lord Admiral in 1491, was forbidden.

Ryght trusty and welbelovyd cousyn, we grete you well, etc. In that ye desyer all the dogers of those partes schuld have our licens to departe in the viage towardes Islond, as they have ben accustommyd to do yerly in tyme passyd, and that ye woll undertak they shall have with them no more quantities of graynes then woll only suffice for ther vitallyng and expensis; we late yow withe that our fully interly belovyd cousyn the Kyng of Demarke, hath showyd and compleynyd unto us by dyverse his letters, that when our subjectes come to the seid Iselond, beyng in hys obeissiance, they stelle, robbe, and exstorte his subjectes ther ageynse ryght and conciens. Wherfore, the seyd doggeres fyndyng sufficient surte be forne yow, such as ye will answer unto us, that they shall not have with them no graynes mo then shall only suffice for ther vitallyng, nor odyr thyng woth them that yo for bedyn, and that also they shall not in goyng, comyng, nor in ther beyng at the seyd Islond, take noo thyng but that they treuly pay or agre for, and frendly entret our seyd cousyns subjectes withowth eny robbyng or ex'startyng them in there bodyes ner goodys; we be content the seyd doggeres make ther viages thedyr at ther libertes, eny our wrytyng or comandment med to the contrary not withstandyng; and allys we woll that our restraynte of ther thedyr goyng stond styll in his strenthe and vertu.[3]

1 *Diplomatarium Islandicum*, Vol. IV, nos. 330, 381; *Isl. Ann.* pp. 290–1; Marcus, 'Early sailings to Iceland', *E. Riding Antiq. Soc. Trans.* Vol. XXX.

2 *D.I.* Vol. IV, no. 381; *ibid.* Vol. XVI, no 26 *et passim*; Baasch, *Die Islandfahrt der Deutschen* (1899), p. 58; Thorsteinsson, *Skírnir* (1951), p. 95.

3 *The Paston Letters*, ed. J. Gairdner (1910), Vol. III, pp. 367–8.

The Iceland fishery prospered steadily throughout the fifteenth and early sixteenth centuries, reaching its peak period, perhaps, in the decade 1520 to 1530. By the year 1528 there were nearly 150 English craft engaged in the Iceland fishery, the great majority of which belonged to the east coast ports, and especially to those of East Anglia. Thus, in an early sixteenth-century document of the High Court of Admiralty, a craft of Yarmouth is mentioned as 'Rygged with all hyr Salte vitell and apparell to hyr perteyneth for the viage to Iislond and preste to goo a Dogger fare'. The Southwold Bay group of fishing ports, which came to the fore about the middle of the fifteenth century, were now at the height of their prosperity. In a lengthy but badly mutilated report to Henry VIII in the year 1533 the King is informed that 'every year there is maintained and rigged for the said... Norfolk and Suffolk and other parts of this your realm of England 100 sail... above that do go of merchandizes and "dogger-fare" for ling, cods and stockfish'. About the same time mention is made of 'Suche person or persones, as... be doggers otherwyse callid Doggermen'. It is worth noticing that at least as early as 1483 arrangements were made for the annual fishing fleet to be *waughted*, or convoyed, on its passage to Iceland.[1]

1 *L.P.F.D.* Vol. III, nos. 3071, 3248; *ibid.* Vol. IV, no. 5101; *ibid.* Addenda, no. 873; *Letters and Papers of Richard III and Henry VII*, Vol. II, p. 287; Gardner, *An Historic Account of Dunwich, Anciently a City* (1754), p. 145; Burwash, *English Merchant Shipping, 1460–1540* (1947), p. 127.

THE WHALING TRADE OF IPSWICH, 1786–1793

By A. G. E. Jones

IN the first half of the seventeenth century, Yarmouth and London ships were engaged in the Greenland fishery.[1] With the rise of Holland and the commencement of the Civil Wars, the English trade declined, and the importance of Ipswich as a seaport diminished greatly.

Daniel Defoe visited Ipswich about 1724, at the time when the South Sea Company was attempting to revive the whale fishery from London. He wrote:

> But at this present time an Occasion offers to speak in favour of this Port; namely, the Greenland Fishery, lately propos'd to be carry'd on by the South Sea Company: On which Account I may freely advance this without any Compliment to the Town of Ipswich, no Place in Britain is equally qualified like Ipswich: whether we respect the cheapness of building and fitting out their Ships and Shalloups; also furnishing, Victualling and providing them with all kind of Stores; Convenience for laying up the Ships after the Voyage; room for erecting their Magazines, Warehouses, Roap-walks, Cooperage, &c. on the easiest Terms; and especially for the noisesome Cookery, which attends the boiling their Blubber, which may be on this River, (as it ought to be) remote from any Places of Resort; Then their nearness to the Market for the Oil when 'tis made, and, which, above all, ought to be the chief thing considered in that trade, the easiness of their putting out to Sea when they begin their Voyage, in which the same Wind that carries them from the Mouth of the Haven, is fair to the very Seas of Greenland.... Ipswich must have the preference of all the Port Towns of Britain, for being the best Center for the Greenland Trade, if that Trade fall into the management of such a People as perfectly understand....[2]

In 1761 Mr Grove, using Defoe's account, wrote of the advantages of Ipswich for the whale fishery,[3] and in 1771 Spencer also repeated what Defoe had said.[4] Nothing, however, was done to establish the trade.

In 1754 Yarmouth re-entered the Greenland fishery by fitting out the *Three Brothers*, Adam Drake Commander, 320 tons measurement. She caught at least eight fish.[5] The fishery seems not to have flourished, and was probably brought to an end by the Seven Years' War. Yarmouth continued the fishery intermittently. In 1775, the *Little Andrew*, a Yarmouth collier, took five fish and a number of seals and was the most successful ship in the Greenland fishery.[6] In 1785 the *Yarmouth* was sent to Greenland and appears to have taken nine fish.[7]

The Greenland and Davis Straits fisheries were continued on a small scale during the war with the United States, but grew rapidly after the peace. In 1783 only fifty-one ships left England and Scotland. In 1784 there were ninety-six, in 1785 there were 149, and in 1786 there were 185.[8]

The season in 1786 seems to have been prosperous. The *Yarmouth*, of Yarmouth, 295 tons, returned from Greenland in the middle of July with seven fish, and reported that the *Norfolk* of the same port had been equally successful.[9] The *Whale* of Leith not only caught three fish, but also was said to have reached latitude 89° N.[10]

An advertisement in the *Ipswich Journal* dated 21 August 1786 stated that several gentlemen of the town, interested in the whale fishery, and convinced that Ipswich was most commodiously situated, had opened a book at the newly established Ipswich Town and Country Bank of Messrs Crickitt, Truelove and Kerridge. It invited subscriptions of £100 and over.[11]

In December 1786 it was announced that Messrs Cornwell, Mangles and Co.* had agreed to establish at Ipswich a fleet of ships for the Greenland trade.[12] They took possession of the buildings and wharves called Nova Scotia† on the west bank of the Orwell, just over a mile from the middle of the town. It had already an excellent shipyard, launch way, and extensive wharves and warehouses.[13] Further pantiled buildings were erected to contain three large oil backs each 26 ft. long, one back 20 ft. long, another small back 9 ft. long, and a copper for refining the oil.[14] The buildings were examined by the partners early in December 1786.[15]

The ships to be employed were said to be the *Ipswich*, the *Orwell* and another ship of about the same tonnage. The *Ipswich*, Captain J. Gardner, was a new ship of 312 tons burthen, built at Yarmouth in 1786, and was owned by Timothy Mangles. The *Orwell*, Captain George Harrison, 346 tons (formerly the *Centinel*), was already sheathed and doubled as she had been used in the Archangel trade. She was owned by J. Hall.[16] The *Ipswich* and the *Orwell* were fitted out in London.‡ A newspaper advertisement advised seamen wishing to ship to apply either to Mr Benjamin Brame (a builder of Lower Brook Street, Ipswich), or to Captain John Hall, ship

* Emerson Cornwell had been a partner with Samuel Alexander in the Needham Market and Ipswich Bank since 1776; he also had a banking business at Key Street, Ipswich, and was a partner in the firm of Clarke, Cornwell and Shave, salt refiners, the Quay, Ipswich. Timothy Mangles was the fourth son of Robert Mangles, a prosperous oil merchant, ship chandler, and ship owner of 272 Wapping New Stairs, who died in 1788. In the 1760's Timothy Mangles was the owner and Captain of the *Genoa Galley*, 200 tons, 16 guns, trading between London and Naples. By 1770 he had become a merchant at Haydon Square, Minories, and at Tom's Coffee House, Cornhill. He became the owner of Nova Scotia Shipyard, Ipswich, in 1782, taking the lease from Emerson Cornwell and William Barnard, shipbuilder.

† This yard, formerly called Blessingham, was built early in the eighteenth century. In 1749 it was acquired by John Barnard. From 1763 onwards East Indiamen, West Indiamen, merchant vessels, sloops and fire ships were built there by Barnard and later by Captain Mangles. Ipswich Dock Commission, lease by kind permission of the Secretary; *Ipswich Journal*, *passim*.

‡ The bounty paid in 1787 shows that only the *Ipswich* and the *Orwell* were employed; the third ship did not sail. Public Record Office, Customs 17/10.

chandler, of 265 Wapping New Stairs, who some twelve years earlier had been captain of the *King of Prussia* in the Greenland fishery.[17]

This was an active season. The high price of oil and candles caused more ships than ever before to be fitted out. Two hundred and fifty ships left England and Scotland.[18] The *Ipswich* with a crew of forty-one men, and the *Orwell* with about fifty seamen sailed from London on 20 March 1787.[19]

In July the *Orwell* was reported as having caught seven fish. She arrived in the River Orwell on 30 July with these seven payable fish and four hundredweight of whalebone besides seals.[20] Like many ships of that time she was obliged by the shoalness of the river to anchor at Downham Bridge, some three miles from the centre of Ipswich. Her cargo was unloaded into lighters, and taken to Nova Scotia, where the blubber was tried out without inconvenience to the inhabitants of the town. The trying out was finished on 20 August and yielded about 70 tons of oil.[21] The *Ipswich* was clean when spoken in latitude 76° N. on 7 July, and was clean on arriving at Harwich on 24 August.[22]

The proceeds of the first season's fishing cannot be stated exactly. The price of oil in 1787 was £18 per ton, and whale fins were £200 per ton.[23] The bounty paid to the Ipswich ships, under the Acts of 1782 and 1786, was £1261. 0*s*. 9*d*.[24] The outlay for provisions, casks, fishing stores and an advance of wages would have been about £1800. The gross profit would have been between £700 and £800.* From this should be deducted the costs of management.

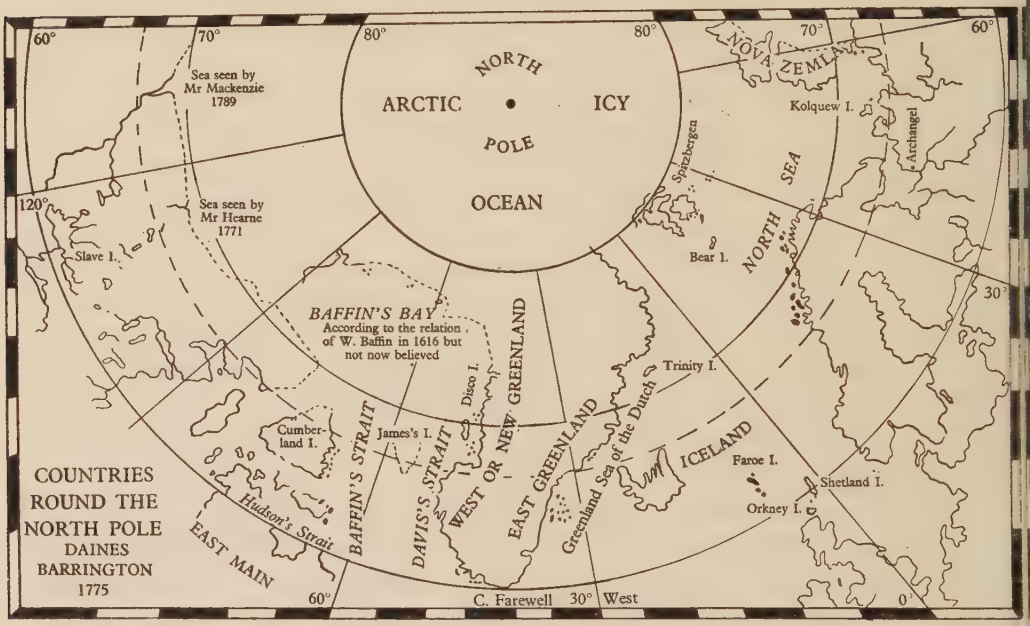
Captain Harrison was employed in local whaling during the winter. In February 1788 fishermen reported a large whale in the Wallet off Great Clacton. Captain Harrison and John Woolward, an Ipswich wherryman, set off in pursuit in a wherry with a whale gun. After three or four days he returned to Ipswich, unsuccessful and worn out with fatigue. He said the whale was between 50 and 60 ft. long and was in a very wild state. It was reported later in Dunwich Bay.[25]

Messrs Cornwell, Mangles and Co. decided to make a second venture in 1788. The success of the first season led to the forming of another company: the members are not known, but it is probable that the initiative was taken by Mr Charles Alexander Crickitt, senior partner in the Ipswich Town and Country Bank. A subscription was opened in the middle of August 1787 shortly after the arrival of the *Orwell* and before the return of the *Ipswich*. The new company sent out the *Simond*, Captain Gardner,

* This and subsequent computations of profit have been based on the accounts of the *Aurora* of London to Greenland in 1784, and the prices of oil, stores, etc. in P.R.O., BT 6/93. No. 1, 141, 15, (*c*), (*f*), (*g*), (*h*), and prices in Beveridge, W. H., *Prices and Wages in England*. (London 1938), Vol. 1, pp. 740–1, and occasional references to prices in contemporary newspapers.

336 tons, already in the whale fishery, and the *Christopher*, 280 tons, Captain J. Dearon, with a crew of thirty-eight men, owned by Hall and Company.[26]

The *Ipswich* left Nova Scotia at the end of February, anchored at Downham Bridge to load, and appears to have sailed for Davis Straits in March. The *Orwell*, Captain Harrison, sailed from Harwich on 7 April for the Greenland fishery. The *Simond* left for Davis Straits, passing Orford on 1 March. The date of the sailing of the *Christopher* is not recorded.[27]



The fishery was generally unsuccessful. Many of the ships, except for the Newcastle ships, returned home clean from the Greenland fishery which, on the whole, was estimated to have lost £109,370. 10*s*. 0*d*. this season.[28] The *Ipswich* returned clean to Ipswich on 4 September. The *Orwell* returned at the end of August with two fish, giving thirteen casks of blubber and four hundredweight of whalebone. The *Simond*, which by July was reported as having caught only one fish with 11 ft. bone in Davis Straits, returned to the Thames early in September having caught no more fish. The *Christopher*, which returned at the same time as the *Ipswich*, caught two small fish in the Greenland fishery, producing seventeen casks of blubber and four hundredweight of whalebone.[29] The bounties cannot be given from the States of Navigation, Commerce and Revenue, but it is probable that there was a gross loss of over £700 on the voyages of the

Ipswich and the *Orwell*, and a gross loss of about £100 on the voyages of the *Simond* and the *Christopher*.

The failure of 1788 did not prevent a third attempt in 1789. The *Ipswich* and the *Orwell* left Ipswich for Greenland on 9 April, and the *Christopher* sailed on 13 April. The *Simond* probably sailed from London.[30]

The *Simond* caught three fish in Davis Straits at the end of May: she later caught another. All four were sizeable fish of over 6 ft. bone. The *Christopher* returned in the middle of September with one fish picked up dead at sea in the Greenland fishery.[31] The *Orwell* returned to the river on 27 July with two fish which gave 27 butts of blubber. The *Ipswich* returned to Ipswich at the end of August with one disputable fish which gave 17 tons of blubber.[32]

Tempers were running short because of the lack of success. The withholding of the bounty from the men of the *Ipswich* because of the disputable fish caused some considerable disturbance. For refusing to take the oath required by the Act of 1731 as to the capture of the fish the mate was sent to the Bridewell. In the following week he thought fit to reply and was released.[33] Peter Byrne, surgeon of the *Ipswich*, laid information on oath that he had been assaulted by Captain Harrison and Benjamin Colchester (a soap-boiler of Ipswich), one of the owners, when they tried to turn him out of his cabin. At the General Sessions on 7 September, the surgeon failed to appear and his recognizance was estreated.[34]

The bounty paid at Ipswich for this season was £1945. 8*s*. 9¾*d*. In three seasons the *Ipswich* and the *Orwell* had brought only 132¾ tons of blubber and 58 seals,[35] and had perhaps made a gross profit of £150. The rival company would have made a gross loss of over £200 in their two seasons' fishing.

Messrs Cornwell, Mangles and Co. seem to have given up the fishery. There is no record of ships sailing from Ipswich. When Mr Alexander Harding died on 26 November 1790, he was described as 'late surgeon of the "Orwell"'.[36] The other company evidently continued, though their ships seem not to have used Ipswich as their port. In August 1790 it was reported that the *Simond* in the Davis Straits fishery had in the middle of June caught three fish, one of which was the largest seen for some years. The *Christopher* appears to have had a poor catch. The oil was evidently sold locally since in July, August and September the price of refined whale oil at Ipswich is quoted for the first time. The company apparently obtained no great return this season, and the fishery was finally abandoned.[37]

The difficulties were not peculiar to Ipswich. In this year the industry as a whole began to decline. Only 152 ships were fitted out from England and Scotland as against 247 in 1788.[38] In 1791 the Greenland fishery seems

to have been unsuccessful, but the Davis Straits fishery had more success than was expected. Only 116 ships sailed from the United Kingdom.[39] The Act of 1792 reduced the bounty from 40*s*. per ton to 25*s*. from Christmas Day 1792 to Christmas Day 1795, and to 20*s*. per ton for the following three years.[40] In addition, the beginning of the war with France led to the impressment of men for the Navy. In this period comparatively few ships left the United Kingdom for the northern whale fisheries.

In March 1793, just as the war with France began, some of the buildings erected for the whale fishery were dismantled and the materials were sold through Benjamin Brame. Later in the same month Nova Scotia shipyard was advertised by Timothy Mangles to be let with its mould loft, warehouses, blacksmith shop and granaries. It was bought by Benjamin King an Ipswich merchant for £1600. More of the unsightly buildings were taken down in 1820, but in 1830 some of the buildings used for cutting up the blubber, and the try works were still standing. Timothy Mangles died in December 1795. He made bequests in his will both to Emerson Cornwell and to Mrs Cornwell: the unsuccessful commercial venture evidently grew into a personal friendship. Emerson Cornwell died in 1819, possessed of a considerable fortune. He appears to have entered upon no further speculative enterprises.[41]

The merits of Ipswich as a port for the whaling trade continued to receive attention well into the nineteenth century. The Universal British Directory in 1791–3, and Cromwell in 1818 were using almost exactly the same words as Defoe. In 1830 Clarke thought that another attempt would be more successful, and a directory of Suffolk in 1837 still stated that 'the Greenland fishery is prosecuted with success'.[42]

The *Orwell* seems to have been employed in the general coasting trade and as a collier, at least until 1804.[43] In 1798 the *Ipswich* sailing from London to Davis Straits, caught one fish. She was again in the whale fishery off Spitsbergen in 1806, and about the same time was fishing in Davis Straits. She continued afloat until 1841–2 when she was sailing from Plymouth in the North America trade.[44]

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THE AMOY FISHING BOAT

By G. R. G. Worcester

SOME Chinese sage once remarked that in the province of Fukien 'vegetables and gold hair-pins are scarcer than meat'. This oblique metaphor alludes to the fishing industry, for this small but densely populated province with its extensive and deeply indented coast line is probably one of the greatest fish-producing and fish-eating districts in China.

Perhaps no city in the province has a more interesting and exciting story to tell than Amoy. Many are the stirring events which have taken place here. For hundreds of years it has been the rendezvous of pirates and unscrupulous adventurers, who have plundered its inhabitants without mercy.

Amoy lies 300 miles north-east of Hong Kong at the mouth of the Lungkiang, or Dragon River. It was famous even before A.D. 800 as a trading centre, and its merchants formerly were found in the ports of India and as far as Persia. Its harbour is one of the finest on the coast.

This is the home port of the deservedly celebrated Amoy Fisher (see Fig. 1). These craft are seldom to be seen north of Shanghai or south of Swatow and consequently they are little known. From a model-maker's point of view they leave little to be desired for they have lovely lines and the hull decoration is most attractive. An additional advantage is the fact that there is a very fine scale model in the Maze Collection at the Science Museum, South Kensington.

Few craft in the world have to stand up to so much continuous bad weather as these fishing boats, which have as their beat the stormy Formosa Channel, and probably no other junk on the China Coast is so well suited to face any storm that blows. These handy, well-balanced and comparatively fast craft were at one time very numerous. The Chinese Customs Trade Report for 1921 gives their number as being over 200, but this diminished to 180 very soon after and is now very much smaller.

The boat builders of Amoy settle the price of construction of these fishing junks by the length of the keel. This is made of Nei Mu, a Chinese hardwood of the laurel family, and in the largest vessel measures 34 ft. in length. This gives a carrying capacity of 40 tons.

These craft vary in size from a length of about 55–70 ft. with a beam of 17–20 ft. and a depth of 5–6 ft.

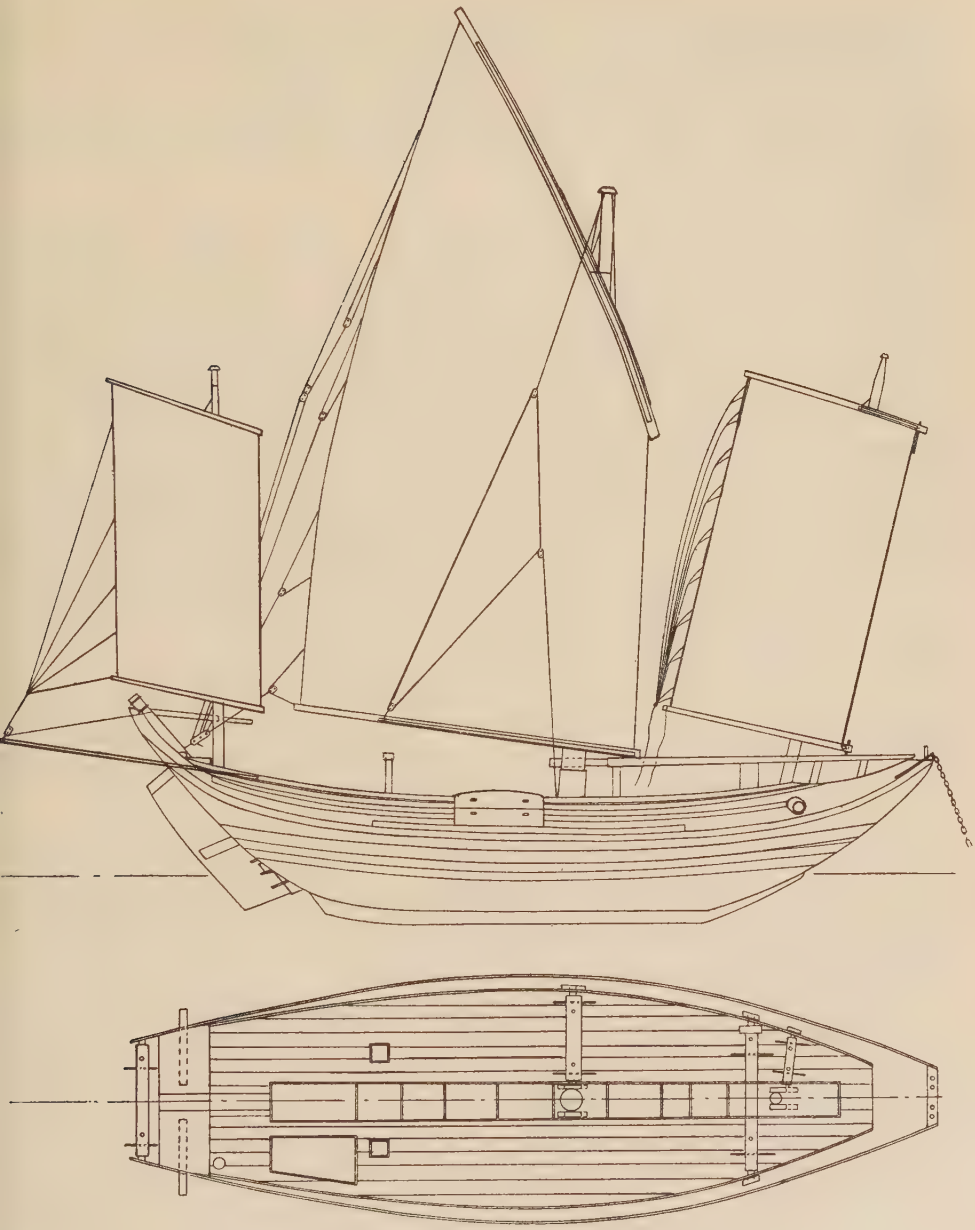

Fig. 1.

Astonishing as it may seem, these little junks are extremely dry and in the roughest weather may be seen bobbing about like corks without shipping any water. Close observation of them while at sea has led the writer to form the conclusion that one of the secrets of their seaworthiness may be their length, which even at their maximum size always fits neatly into the trough of the sea between the two wave crests or else rides on the crest of one wave only.

The layout below decks resolves itself into twelve compartments. The first two are devoted to provisions and fuel storage; crew's quarters and salt hold account for three more; while the fishing gear and nets, fish holds, ice hold, water tank and Laodah's, or Master's, accommodation complete the remaining seven compartments. The bottom of the hull is painted white; the mixture contains lime, which possesses anti-fouling properties. The bulwarks are painted in sections red, green, yellow and blue. The bow is full enough to give lifting power in a seaway, broadening slightly as it approaches the water-line and then narrowing until it reaches a point at the keel which rises to meet it. The transverse planks of the bow are painted black above and red below. There are usually a Yin and Yang[1] in a circle on the upper portion and sometimes a chevron marking the border-line between the black and red colourings.

As is the case with most sea-going fishing junks in China, the eyeball of the oculus is set low in the white, so as to be on the alert to observe the fish, unlike the trading junk, wherein the eye looks straight ahead so as to perceive and avoid distant perils, invisible to mortal sight.

Longitudinal strength is given by three wales. Protection from the weather is provided by 2 in. thick bulwarks. These are reinforced by four or five strengthening pieces running along the outside from the oculi to the stern, but interrupted just abaft the mast by a gangway for launching the rafts used in fishing.

The lower extremity of the broad-winged stern meets the keel. At the centre of the stern is a strengthening piece in the form of a transverse beam. This serves also to take the main weight of the rudder, which is set at an angle so as to follow the curve of the stern down to the keel. The high wings ascending and terminating on either side in sharp points act as supports for a windlass, which is situated abaft the rudder post. The rope-hoisting gear for the rudder leads from the upper edge of the bearding and thence round the barrel of the windlass. There are usually three masts, the mizzen being stepped on the starboard side against the bulwarks.

1 The Yin and Yang have been for at least 2000 years used to interpret the processes of nature and they are the fundamental feature in the theories which underlie divination and medicine.

According to Sir Frederick Maze, there is a local Amoy tradition that all the sails should not be lowered at any one time. In conformity with this superstition the foresail is seldom lowered even in port. Formerly all three sails were made of bamboo leaf. After 1920 cloth sails were used on the

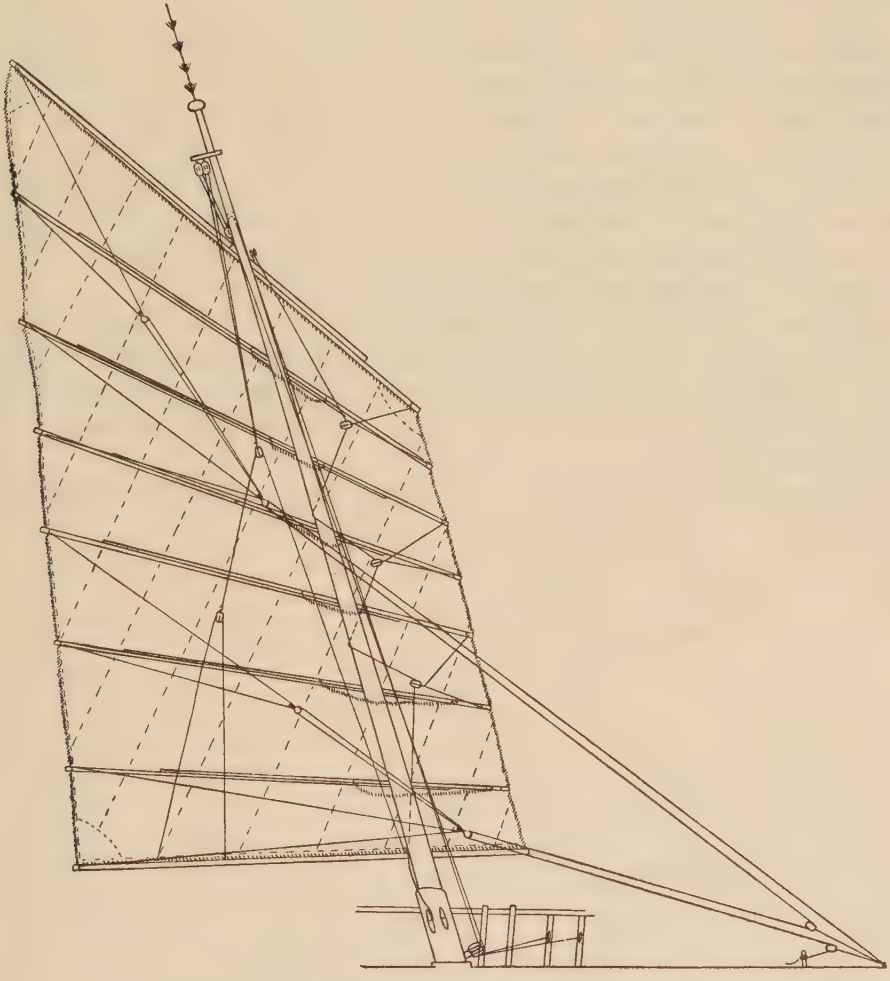

Fig. 2. Plan of foresail.

main and mizzen masts, and the fishermen found this material far lighter and easier to handle. The foresail, however, being always kept hoisted is still very often made of the old bamboo leaf which is far cheaper than cloth. An exception is made in the case of the Chungwu craft which usually have a foresail of cloth. This is illustrated in Fig. 2.

The crew consists of about twenty-six men and two women. This would seem a large complement for the size of the junk, but they are required for the methods of fishing, as they set out on rafts or in sampans for the whole day, leaving the junkmaster and one man to handle the junk and the two women to cook and wash the clothes.

Eight to twelve of these bamboo rafts are carried, and when the fishing grounds are reached they are launched at daylight. Each raft is manned by two men who tend the fishing lines. In the evening the rafts return to the mother-junk. Sometimes sampans are used instead, or in addition. These rafts are always hoisted in on the weather side of the parent ship.

The Amoy fishing boats can keep the sea for about ten days, after which they return to port. Despite their sturdiness they are very graceful craft and make a pleasing and colourful picture with their brightly painted bulwarks harmonizing with the brown of their sails.

Gales are the rule rather than the exception on the China Coast in winter; and, while these ships are probably the driest on the coast, they pitch to a degree which has to be seen to be believed. The women members of the crew are quite exceptionally good sailors to stand the discomfort and constant motion.

These boats have no rivals for roughness and toughness, unless it be their crews.

Fig. 1. The Tiberine Island. (Giovanni Battista Piranesi (1720–78).)

Fig. 2. The Tiberine Island. Remains of the stone-built Roman galley. Rome, 28 March 1954.

THE ROMAN GALLEY OF THE TIBERINE ISLAND

By G. B. Rubin de Cervin

FORGOTTEN and half hidden amidst ungainly modern buildings, there still stands in the Eternal City upon the Tiberine island the massive prow of a Roman galley. Carved out of travertine blocks on the lines of a true ship, the monument has somehow withstood destruction through the passing centuries, so that its surviving port side may still be seen from the left bank of the Tiber, between the existing bridges Fabricius and Cestius, and the partially destroyed Pons Aemilius (called nowadays Ponte Rotto). The site, described by Ovid[1] as '*Hic ubi discretas insula rumpit aquas*', had been included in the fourteenth region by Augustus, but was also known by different names, such as *insula serpentis Epidaurii*, *insula Lycaonia*, or simply *insula*. How this island, which according to early traditions was formed by the grain from the fields of the Tarquins, which was thrown into the river in great quantities after the expulsion of the Etruscan kings, became later connected with the god Aesculapius, is told by a number of Latin authors.[2] The legend goes that in 291 B.C., owing to a plague which was raging in Rome, the Senate, after having consulted the Sibylline books, decided to seek help from the Greek divinities; a ship with three envoys, who were to receive advice within the reputed sanctuary of Aesculapius, was therefore despatched to Epidaurus Argolidis. On their arrival, the god himself appeared and announced that he would come to the land of Ausonia under the shape of a serpent; and in fact a huge reptile soon after was seen to climb aboard the Latin ship, '. . . *ad triremem Romanam perrexit*'[3] which then weighed anchor, making sail for the Roman shores. The imaginary return journey is vividly described by Ovid[4] in his superb Latin verses, and thus the vessel is seen beating its way back from the Jonian sea, through Scylla and Charybdis, to Paestum and Capri, past Cumae and the Pontine marshes, to Ostia and the Tiber, and finally to Rome. Suddenly, on nearing the *insula*, the serpent showed signs of unrest

1 P. Ovidius Naso, *Fasti*, Bk. II, l. 194.

2 T. Livius, *Ab Urbe condita*, Bk. XI., Periocha–P. Ovidius Naso, *Metamorphoseon*, *Aesculapius in anguem mutator*, Bk. XV, ll. 622–739. Valerius Maximus, *Factorum et dictorum memorabilium*. Bk. IX, *De Miraculis*, Bk. XIII, ll. 15–24.

3 Valerius Maximus, *op. cit.* l. 15.

4 P. Ovidius Naso, *Metamorphoseon*, *op. cit.*

and then swam ashore, where it once more took over his human form before vanishing for ever.

Coins of the Republican period, issued by the *Tresviri monetales* and belonging to the *gens* Eppia, Rubria and Pompeia, depict the incident, presumably as these families claimed to descend from those same envoys who had been sent to Epidaurus. One *aes* bearing the inscription L. RUBRI DOSSEN (Text-fig. 1) Lucius Rubrius Dossenus, 83 B.C.)[1] is significant as it displays a temple wherein may be seen the sacred serpent coiled around an altar, while in the background there appears the prow of a galley, the scene possibly meant to reproduce the very monument which survives to this day. Many other coins which bear on the subject, are ascribed to the above-mentioned *gens*,[2] and lastly one medallion to the imperial mint of Antoninus Pius[3] (A.D. 140) (Text-fig. 2), which shows a galley passing under the bridge Aemilius, while the serpent is finding his way into the temple and the God Tiberinus welcomes the arrival.

Text-fig. 1.

Text-fig. 2.

In consequence of this legend, the southern end of the island was made to resemble the prow of a galley. As it stands to-day, the monument has a length of 10 m., but originally it must have been far more, for the stem and the *rostrum* are completely missing. Neither the stone platforms, symbolizing perhaps a slipway, which was still visible in the eighteenth century, and is buried deep in the sands which gradually formed around it, reaches at present what would be the ship's water-line. The nautical interest is given by the fact that the structure was evidently built following the shape of a real craft and thus fortunately a few relevant features of a Roman fighting galley were preserved for our knowledge. The hull reveals graceful

1 E. Babelon, *Description Historique et chronologique des Monnaies de la République Romaine*, ed. Rollin. T. 2, p. 405. Paris, 1886.

2 E. Babelon, *op. cit.* T. 1, p. 476; T. 2, p. 349.

3 H. Cohen, *Description Historique des Monnaies*, ed. Rollin, Vol. II, p. 271, no. 17. Paris, 1882.

lines and a powerful strake running up all along her side and which very likely finished up into the ram.

One of the *epotides* is still there, bearing on the forepart the bas-relief of the sacred serpent, as well as the image of the God, while a lion's head protrudes from the side and may find some reference with the many bronze-cast *protomae* which were yielded by the Nemi findings. Right back of this the outrigger frame curves outwards, though its supporting ribs are not shown, as in the real ship they were probably covered over, very much as it had been a long established custom in the seventeenth-century Venetian galleys. The whole structure has in fact a great similarity with a half-breadth model existing in the Museo Storico Navale of Venice. This coincidence was also noticed by Contre-Amiral Serre[1] when he compared the galley-shaped pedestal, upon which stands the Nikē of Samothrace of the Louvre Museum with the later Italian *galere*. Did the unknown artist, who built this fine monument on the Tiberine island, seek inspiration from the Greek masterpiece, or did the idea come to him from the sharp prow which so frequently appears in the Roman coins?

The exact date of the temple which was erected to this god, and the island consecrated to its *temenos*, is uncertain, although some authors[2] believe that the remains of the stones point to the same period as that of the construction of the nearby bridges (Fabricius, 62 B.C. and Cestius, 70 B.C.) making it thus possible that these structures were part of the same plan as the building of the ship. The monument was surmounted by a small obelisk, intending to represent the mast. It was still *in situ* up to the sixteenth century but has since crumbled to pieces; fragments of it are preserved, some in the Naples Museum, others in Munich.

Paintings by the Flemish-Italianized Gaspare Vanvitelli, alias Van Wittel (1655–1736) and the Venetian Giovanni Battista Piranesi (1720–78) show the Tiberine island with the ruins of the Roman ship as it appeared in the light of their days. The latter's etching, with its contrasting and dramatic *chiaroscuri*, is considered one of his best works.

1 Contre-Amiral Serre, *Les Marines de Guerre de l'Antiquité et du Moyen Age*, ed. L. Baudoin, p. 50. Paris, 1885.

2 S. B. Platner, *A Topographical Dictionary of Ancient Rome*. Oxford University Press, 1929.

NOTES

A PIECE OF MEDALLIC EVIDENCE FOR A SHIFT OF EMPHASIS IN THE ROMAN CONCEPT OF THALASSOCRACY

As is well known, the emperor Commodus issued bronze medallions with a reverse where he is depicted sacrificing by a harbour. At least four dies are known, all represented in the Cabinet des Médailles at Paris.[1] In front of the emperor are disposed five vessels of at least three different types; behind him, a tower in three distinct tiers from the top of which issues a flame. The legend is VOTIS FELICIBUS. Also in the Cabinet des Médailles is a medallion struck by Diocletian in direct imitation of the Commodus issue.[2] Again the emperor sacrifices on the shore with five vessels before him and the three-storied tower behind. In a paper of great cogency, Professor Alföldi has argued that both the Commodus and Diocletian medallions depict the solemn annual consecration of shipping to Isis.[3] While not altogether happy concerning one or two points of interpretation—and I understand my doubts are shared by experts in this field—I do not propose to call in question the essential validity of Alföldi's most interesting thesis. The point which I wish to make is simply that between the death of Commodus and the abdication of Diocletian there occurred a significant shift of emphasis in the Roman concept of thalassocracy.

In the case of the Commodus medallions the scene depicted is essentially a consecration of merchant shipping. Two great merchant ships sail proudly into the harbour, and are greeted by a small galley and two boats, each manned by a single rower seated in the stern.[4] This eccentric seating is extremely unusual, and I have found it peculiar to one class of Roman ship and one alone, barges used on a river. Froehner and Vogt saw in this medallion no more than a representation of the emperor welcoming home the Alexandrian grain fleet to Ostia, and in fact it is possible to reconcile this interpretation with Alföldi's. The ships are indeed grain ships, and we have the harbour police boat going out to check their papers while the Tiber barges eagerly wait to unload the precious cargo. The tower behind the emperor is in substantial agreement with the Pharos of Ostia which is known to us from a variety of reliefs.[5] Were it not for the legend VOTIS FELICIBUS, the Serapis/Neptune identification in the stern of the nearest grain ship could be dismissed as a convention indicative of the fact that it is the Alexandrian fleet that is being welcomed. What in fact we have is an annual consecration of shipping in which shipping is personified by the safe arrival of the corn fleet.

In the Diocletian medallion, on the other hand, the type is significantly altered. Five vessels proceed from left to right, instead of the two most important only. Two large war galleys are led in by a smaller, and the barges are become cock-boats. Incidentally, there is no longer a Serapis/Neptune identification in the stern of the largest ship. Again we have the consecration of shipping—though now the VOTIS FELICIBUS legend is the only indication that it is to Isis—but this time shipping is personified by the review of the war fleet.

My suggestion is that the Roman concept of thalassocracy had undergone a subtle transformation. Under Commodus the Mediterranean had been so long 'Mare Nostrum' that the man-in-the-street associated sea-power with the regular arrival of grain-filled *corbitae*, *pontones* and

1 Gnecchi, Pl. 89, 6–8. I am grateful to M. Lafaurie of the Cabinet des Médailles for supplying me with casts and for permission to reproduce them here.

2 Gnecchi, Pl. 125, 10.

3 Andreas Alföldi, *A Festival of Isis in Rome under the Christian Emperors of the Fourth Century*. Budapest, 1937.

4 Alföldi (*op. cit.* p. 78) identifies the ships as 'warships, transports, boats'. In fact, only one can possibly be a warship, and the merchant-ships are essentially bulk-carriers and not transports.

5 In addition to the material in Thiersch's 'Pharos', mention should be made of the Ostia mosaics and reliefs built into the Cathedral at Pisa.

Casts of four dies in the Cabinet des Médailles at Paris.

cladivatae at Ostia. Under Diocletian Rome was still mistress of the sea, but the silk glove had fallen away a little. The man-in-the-street—remembering the Gothic incursions—thought of sea-power in terms of a fleet in being. Would it be too chauvinistic to detect a further allusion to the menace of Carausius?[1]

R. H. M. DOLLEY

SAILOR'S BAPTISM IN SCANDINAVIAN WATERS

I do not agree with the conclusion reached by the author of the article under this heading which appeared in *The Mariner's Mirror* of August 1954.

Mr Henning Henningsen states that the sailors baptism is a form of the world-wide custom of the initiation of youths into the company of grown men. In my opinion these ceremonies are of purification and homage before venturing into the unknown. As they are all similar in form one can, I think, assume that they came into being for the same reason.

The Crossing the Line ceremony is typical of them all and only minor details differ.

After King Neptune and his Queen (Amphitrite) with their attendants have come on board over the bows and the Captain of the ship has granted them permission to hold their court the policemen of the court seek out and bring by force those of the ship's company who have not Crossed the Line before, in front of Neptune. Here the homage and purification (shaving by the barbers and 'ducking' by the bears) ceremonies are carried out. Then a certificate is granted. A typical certificate is as follows:

PROCLAMATION

Be it known on this day..... in Longitude ..... the trustworthy and esteemed

..... of

His Britannic Majesty's Ship

.....

Whilst in search of divers conquests, scrap metal and stray mermaids, did pass into my Southern Domain and did pay due respects to Queen Amphitrite and Myself. I therefore declare that in future all whales, dolphins, porpoises, sharks, crayfish, jellyfish, flatfish, and tinfish whom he may encounter, shall treat him in a manner befitting that of one of my loyal subjects, also that he may be exempt from further homage.

NEPTUNE
Maris Rex

(The above is a copy of a World War II certificate and 'scrap metal' refers to enemy ships, and 'tinfish' to torpedoes.)

It should be noted that not only the young go through this ceremony but all people, both young and old who have not crossed the line before. Also it should be noted that nowhere in the certificate is any mention made to the effect that the recipient can now consider himself a true man or a fully qualified sailor, etc. The certificate, apart from stating that the individual has paid homage, is an order by Neptune to the inhabitants of his domain to grant a safe passage.

It is my opinion that all these baptismal ceremonies of sailors are carried out to obtain protection and to allay the fear of the unknown that lies beyond a cape or headland, or before venturing into a far sea or ocean. They are carried out symbolically before the presiding god of the new unexplored region; a half frightening half benevolent Old Man such as Neptune or a personification of a local diety such as Kullemand. (Here it is interesting to note that only Neptune is accompanied by a female figure. Also the crossing the line ceremony appears to be the only one where a new recruit is not called upon to pay a fee, such as of drinks or a feast, to his more experienced shipmates.)

1 The argument is considerably strengthened if we accept the middle period date for the Diocletian medallion that is suggested by stylistic considerations.

On the last page of the article there is reference to the besmearing of the genitals of young sailors with grease tar, etc. Sir James Frazer in *The Golden Bough* writes that the Arcadians had a custom of whipping the image of Pan with squills at a festival, or whenever the hunters returned empty-handed. This was done, not to punish the god but to purify him from harmful influences which were impending him in the exercise of his divine functions as a god who should supply the hunter with game.

Similarly, the object of beating, etc., the human being on the genital organs with squills and so on must have been to release his reproductive energies from any restraint or spell under which they might be laid by demoniacal or other malignant agency.

Is it, on my part, too much a flight of fancy to recognize the young sailor, and especially the young fisherman, in this part of the article, as a representative of the creative and fertilizing god of the harvest of the sea, i.e. the fishes? BRIDPORT

FURTHER NOTES ON THE SYRIAN SCHOONERS

The Syrian schooners have been noted in the *Mariner's Mirror* on several occasions in the past. On page 221 of Vol. IV the President asked what name should be given to the rig of a vessel he saw at Port Said in 1911. The accompanying sketch appears to show a vessel of the type which has since been called a Syrian schooner. On p. 401 of Vol. XVII Anon suggested that ships of this type were engaged in a seasonal trade between Syria, Cyprus and Egypt, while G. Parker, dubbing them 'the Turkish type', adds that several ships of this kind have been built at Alexandria. On p. 3 of Vol. XX was an editorial promise of a series of reproductions from Mr C. L. Barker's collection of photographs of these ships. The first reproduction, of a photograph of a vessel from Beirut, appeared opposite p. 120. What appears to be the original print of this photograph is now in the Photographic Collection at Greenwich, but no further reproductions appeared in the *Mariner's Mirror*. On p. 54 of Vol. XXXIII Mr A. G. Vercoe contributed a long and valuable note on these ships, together with seven photographs. In addition to these references in the *Mariner's Mirror* schooners of the same type are described and illustrated on pp. 143/4 of Sir Alan Moore's *The Last Days of Mast and Sail*, and there is a reference to them in Mr H. A. Underhill's *Deep Water Sail*, together with photographs and a drawing. They are mentioned on p. 322 of the second edition of Warrington Smyth's *Mast and Sail in Europe and Asia*, and there is a sketch on the succeeding page. Finally, there are a few further photographs in the Students' Room at Greenwich.

With the exception of Warrington Smyth's sketch, which shows a schooner of a rather different type, all these references add up to a complete picture of a distinct class of vessel. Adding material from my own observations of these ships, and from those of the Editor, I would venture to describe them briefly as follows. The 'Syrian schooner' is a two-masted wooden ship, carvel built on pre-erected frames, of size varying from 60 to 90 ft. overall, of moderate draft and good beam. She has a concave stem and full bows and in recent years usually a transom stern. Older vessels sometimes had an elliptical counter. The important aspect of her from the nautical archaeological point of view is her rig. She is what is nowadays called a Bermudan staysail schooner, with sails of low aspect ratio, so that her mainboom for half its length juts over the stern, while the loose footed foresail is sheeted abaft the mainmast. The main staysail is part of the ordinary working canvas. The forestay sometimes comes down to the bowsprit, sometimes to the stem head and in the former case there are three and in the latter four headsails. There is a long jibboom. The pole masts, which are raked aft but not necessarily to the same degree, are often of almost the same height, but the luff of the mainsail is usually longer than that of the fore. The shrouds and principal stays usually, as far as the schooners built in Syria are concerned at least, come to the mast well down, 'as though', as Sir Alan Moore puts it, 'there were a memory of a masthead there, and of either a topmast or an upended yard above it'. Above the shrouds ladders are fitted to the fore side of the masts to the mast heads. The luffs of the main and foresails travel on tracks on the masts. There is evidence that the foresail is sometimes brailed in to the mast and stowed up and down it.

Ships of this type have been built in the past in Egypt and on the Syrian and Lebanese coasts. In the north-eastern Mediterranean building appears to be confined at present to the island of Ruad or Rowad, off Tartus. A number are owned there, and there were eleven schooners of this type lying in the sound between Ruad and the mainland when I was there last February. This number gathered together might possibly provide evidence of a seasonal trade, as suggested previously in the *Mariner's Mirror*. Recent photographs of Famagusta show a number of vessels of this type among a large fleet of schooners in the harbour, but very few of them, the Editor tells me, are owned in Cyprus. Further evidence suggestive of a regular trade from the Syrian coast to Cyprus and Egypt may be provided by the fact that the extant photographs mentioned in the list of sources above show these ships only in ports in these countries.

The problem the Syrian schooners present is whether they represent an independent evolution of the 'Bermudan' sail, and of the staysail schooner rig, distinct from their development in northern Europe and America—perhaps, as Sir Alan Moore hints is possible, from the lateen—or whether they are merely the result of the intelligent local adaptation of western ideas in recent years. They may of course be a combination of both, such as would be represented by the adoption of mast tracks and sails furling to a boom in the place of sails laced or lashed to a mast and furling to it with brails.

Against the independent evolution of the Syrian schooner is the fact that a fairly extensive examination of the prints, watercolours, and drawings of the eastern Mediterranean in the eighteenth and nineteenth centuries that are in the National Maritime Museum has failed to reveal a single illustration of a vessel rigged in this fashion, or of a sail of 'Bermudan' type at all. The local belief would appear to be that Ruad is the home of this rig. But the Ruad model makers, who peddle excellent models of Syrian schooners up and down the adjacent mainland coasts will, given time, produce equally excellent models of orthodox brigantines of hull form similar to that of the schooners. These brigantines were perhaps once the main product of the shipyards of Ruad, they appear completely western in origin and their headgear is remarkably like that of the schooners. But, as with the mast tracks, this may be no more than a case of combination and adaptation of western and indigenous devices.

BASIL GREENHILL

THE RIG OF EARLY MEDIEVAL WARSHIPS

I was rather surprised to see that my ability to interpret pictorial evidence has been challenged by Mr R. H. Dolley in his continuation of our discussion of the rig of medieval warships. In particular he questions that the yards shown on the ships of Paris MS. grec. 510 are hung from the middle for he states that he looked up Brindley's[1] reproductions of these and observed that the after portion of the yards are substantially longer.

While Brindley's plates give a fair idea of the general arrangement, there are certain details that are not well reproduced. I have worked with original 12 × 16 in. photographs of these manuscripts supplied by the Bibliothèque Nationale. Even these do not show all the details of the original coloured manuscripts, for other details become evident in a reproduction published in colour.[2]

I append here drawings of these sails (Fig. 1); these have been traced from the photographs and have been photostatically reduced so that all proportions have been faithfully maintained. Regarding the ship of f. 367v., it should be noted that the details at the masthead are missing, since the manuscript is damaged at that particular point. Likewise, it is very important to note that in this same manuscript the peak of the sail is hidden by the border of the drawing. I have reconstructed the peak with dotted lines in my drawing.

If one puts a ruler on the yards of these two drawings he will see that in both cases the after portion of the yard is longer than the forward portion, varying from 59 to 60%. However, no competent marine archaeologist should base too much on these measurements.

1 H. H. Brindley, *M.M.* Vol. XII (1926), p. 13.
2 A. Grabar, *Byzantine Painting* (Geneva, 1953).

At this point it will be helpful to introduce the so-called lateen sail of the modern Arab dhow. Mr Dolley will probably immediately accuse me of pulling a modern boat from another part of the world out of the hat as a *deus ex machina* to get out of a hole. However, there are several good reasons why I am perfectly justified in bringing in the Arab dhow at this point.

In the first place it has been hypothesized by many that the lateen sail was introduced to the Mediterranean by the Arabs. Mr Dolley[1] is apparently in complete accord with this theory since he has put himself on record as follows: 'It is, however, very significant that the Aphrodite papyri, the accounts of the first Arab navy kept in Greek by Coptic scribes, use exactly the same terminology as that employed in the Byzantine accounts of the naval expeditions of 910 and 949. This would seem to confirm Findlay's century-old supposition that the Arab fleets were responsible for the general adoption of the lateen throughout the Mediterranean.'

However, Mr Dolley is not satisfied that the Arabs themselves are to be credited with the invention, but he does state that it is fairly safe to say that the lateen rig had been evolved before the rise of Islam, i.e. seventh century A.D. It is not important to this discussion to identify the inventors of the lateen rig.[2] But if the Arabs borrowed the rig from someone else, and spread it to the Mediterranean, we may most certainly assume that its introduction to the Persian Gulf, the Gulf of Oman, and the Western Indian Ocean is due to these same people. Thus we are justified in bringing into this discussion the modern Arab lateen sail, since there is a possibility that it is closer to the primitive prototype than any of the Mediterranean examples.

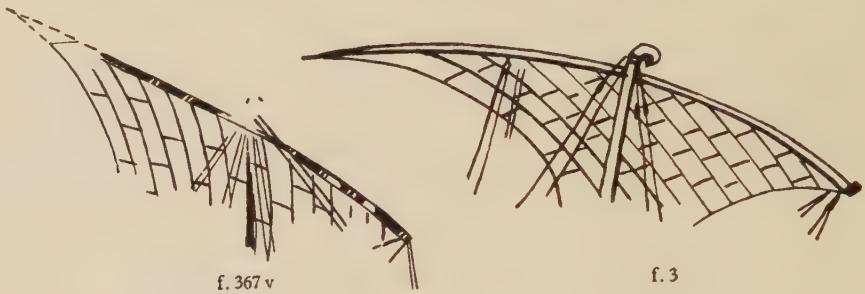

Fig. 1.

The drawing of the Arab dhow included here is that of a *jalbut* from the Persian Gulf (Fig. 2); it is part of a drawing which was published five years ago.[3] This is a very accurate representation of this particular type of craft which was made from actual measurements of one I owned for several years; altogether I sailed with the Arabs and others on dhows of various types for two and a half years.

It is a fact that the yards of Persian Gulf craft are hung from their centres, and this drawing shows the yard hung from the centre. In the drawing the halyard is in back of the after shroud and is hitched to the yard at the point where the backstay is made fast to the yard. Measurement of the yard shows that the after end projects 53% past the mast. This might not seem to make sense considering the fact that the halyard is secured to the centre of the yard. However, it is explained by the manner in which the sail is set.

1 R. H. Dolley, *M.M.* January 1949.

2 When I first chose the Persian Gulf for the origin of the lateen sail this was more or less an educated guess, since all the evidence was circumstantial. (R. LeB. Bowen, jr., 'Arab Dhows of Eastern Arabia', *American Neptune*, Vol. IX (1949), pp. 87–132.) Now five years later after much intensive research on all Eastern sails I have only altered the theory to include the Gulf of Oman. (R. LeB. Bowen, jr., 'Eastern Sail Affinities', *American Neptune*, Vol. XIII (1953), pp. 81–117, 185–211.)

3 R. LeB. Bowen, jr., 'Arab Dhows of Eastern Arabia', *American Neptune*, Vol. IX (1949).

The main halyard on a dhow leads from the yard to a sheave in the masthead and then to a block of many sheaves, depending on the size of the dhow. Another block fastened to the deck completes the halyard purchase. The yard is held close to the mast by a parrel arrangement which consists of a collar of wooden sheaves passed around the mast and fixed to the yard. The parrel is essentially a noose with one end fixed to the yard and the other end leading to the backstay.[1] Thus when the backstay is taken up the parrel tightens around the mast and draws the yard toward the mast. This is necessary since the pull on the sail due to the wind tends to pull the yard away from the mast when the boat sails into the wind.

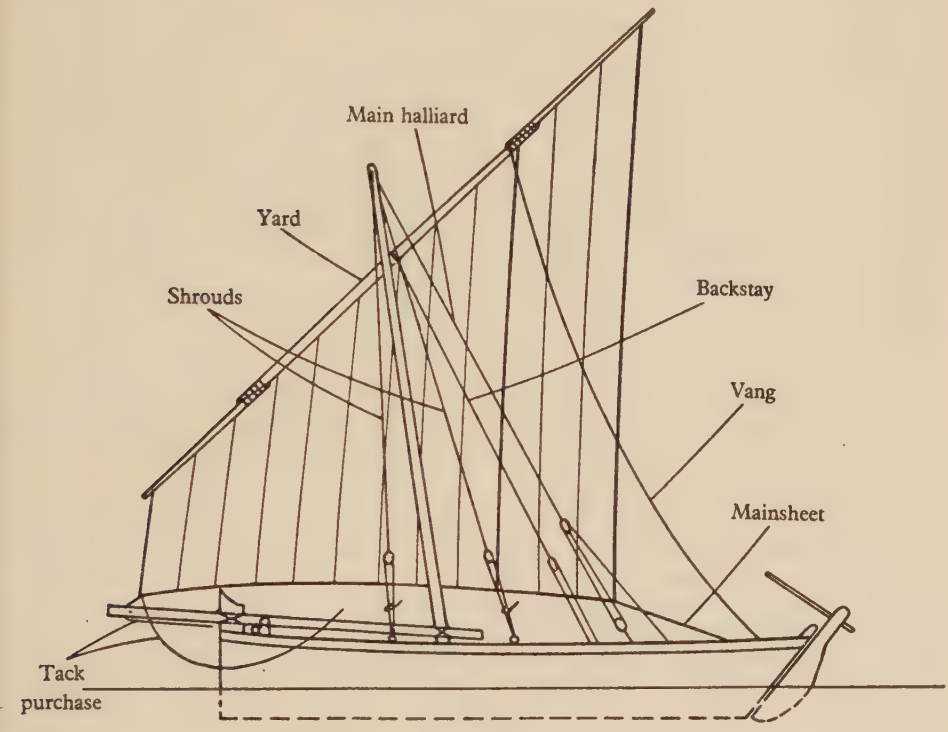

Fig. 2.

Since the backstay tackle has less purchase than the main halyard, it is often customary to take up on the backstay tackle before the yard has been hoisted all the way. Then once the backstay is set up, the halyard is taken up. At other times the backstay is taken up only after the yard has been hoisted completely. The result of either of these techniques is to move the centre of the yard slightly aft of the mast. In the drawing shown the after projection is 53%.

However, the natural pull of the sail is forward, as well as away from the mast. Thus if the rigging loosens any, the yard tends to swing forward and out from the mast when the boat is headed to windward. If the craft is photographed in this situation the forward projection of the yard may now be 53%. The whole point of this discussion is that one cannot say that the yard is not hung from the centre if an illustration happens to show the yard projecting 55% aft or forward of the mast. Such is partially the case with the Paris MS. grec. 510 sails. When I made the statement that the yards were hung from their middles, I made it with the knowledge that almost 60% of the yards are shown projecting aft of the mast.

1 R. LeB. Bowen, jr., 'Arab Dhows of Eastern Arabia', *American Neptune*, Vol. IX (1949).

One will notice that the sail on the Arab dhow (Fig. 2) is composed of a number of narrow vertical bands of cloth. This is a very old custom in the East, and is found on native sails stretching from Arabia to Japan and to the Polynesian Islands. The bands of material, which in many instances are composed of woven palm matting, are always the same width. Thus with the Arab dhow illustrated here there are twelve of these shown, and the halyard is fastened to the yard so that there are six on either side.

Likewise one will see that the sails of grec. 510 (Fig. 1) are composed of similar bands of cloth. We have absolutely no reason to assume that on each sail they are not all the same width. In both f. 3 and f. 367v. the central band is behind the mast. In f. 3 the centre of the band is slightly aft of the mast, and in f. 367v. it is slightly forward of the mast. Since the part of the halyard leading from the masthead to the yard is not shown in any of these illustrations, we may only assume that they were close to the mast. Thus it seems evident that the artist intended his yards to be hung from the middle. If one will look carefully at the bands of cloth in these grec. 510 sails he will note that at the bottom of the sails they are approximately the same width, with the exception of the after band in f. 3. At the top of the sail the after two bands in both are wider where they join the yard. The conclusion is obvious: the artist put a curve in the edge of the last band or two to show that there was wind in the sail and to indicate that the boat was sailing. My plan of the Arab dhow simply shows the sail as it would hang if the boat were in still air. In putting this curve in one or two bands of the sail cloth the artist naturally stretched the after projection of the yard.

Before leaving this subject it should be noted how the rigging of grec. 510 compares with that of the Arab dhow to-day. In f. 3 the after two lines leading to the masthead are undoubtedly the backstay and the main halyard, while the forward two lines from the masthead are the shrouds. There appear to be two tack purchases in the grec. 510 sails, and also two vangs in f. 3. In f. 367v. the artist appears to have run these two vangs to the masthead, since there are no vangs shown, but there are four pairs of lines running from the masthead. In f. 3 there is a ship with the sail furled on the hoisted yard which duplicates the rigging shown here on the ship with the sail set (Fig. 1).

Mr Dolley states that 'Paris MS. grec. 510 is brought out of the hat as a *deus ex machina* to prove that as late as the ninth century yards were "hung from their exact middle". In fact I have known about the manuscript for many years, but have been chary of discussing it. . . because it is a work of the early Macedonian renaissance.'

Mr Dolley has apparently forgotten that in his first article[1] on the 'Rig of Early Medieval Warships' his introductory paragraph referred to this manuscript, and in conclusion he reverted to it, so that 23% of the article was devoted to a discussion of grec. 510. He accepted a ninth-century date for the manuscript, but pointed out that on stylistic grounds it can be assumed that the rigs depicted 'had been in general use for a considerable period'.

Mr Dolley is under the impression that I claim a date of A.D. 880 for the *ships* shown in grec. 510, and goes to great lengths to show that these ships cannot be later than pre-Iconoclastic (*c.* A.D. 700). In my comments[2] I stated that the manuscript, not the ships shown there, was dated 880.

The whole point of citing grec. 510 of course is obvious. Mr Dolley[3] himself has pointed out that this manuscript contains the earliest known pictorial representation of a lateen sail. Realizing that the ships shown are somewhat earlier than the manuscript, we are still justified in citing grec. 510 in any discussion of lateen sails of A.D. 900, and we must assume that the lateen rig of the galley was the same as that of the 'nef' until definitely proved otherwise. There is no lateen sail known before grec. 510, which is many centuries earlier than the next earliest lateen sail known. Thus in such difficult terrain we simply must start with whatever pictorial evidence we have, which is grec. 510.

Mr Dolley[4] states that he is surely entitled to draw attention to the fact that in the Ravenna mosaics we have a medieval work depicting a structure that agrees so well with his construction of

1 R. H. Dolley, *M.M.* January 1949.
2 R. LeB. Bowen, jr., *M.M.* August 1953.
3 R. H. Dolley, *M.M.* January 1949.
4 R. H. Dolley, *M.M.* February 1954.

a very obscure passage in Kameniates. Mr Dolley seems to be unnecessarily confusing the issue. In Kameniates's passage we have reference to a rather elaborate platform built aloft on the ends of the yards of two ships lashed together. The steering oars were used in the structure to go from the mastheads to the outboard ends of the yards. In the Ravenna mosaics, Mr Dolley originally claimed that the men swarmed up the reversed yards, in a manner described by historians for the conquest of Constantinople during the Fourth Crusade. It is difficult to see how there is any real similarity between the two. It is interesting to note that both of the accounts come from historians. We have yet to have a definite pictorial representation of either of these. And certainly one cannot reconstruct an accurate picture of the apparatus referred to in Kameniates's passage with the evidence at hand.

It is rather difficult to see how Mr Dolley can still maintain that the Ravenna mosaics depict a man climbing up the reversed yard. He admits that possibly there is a yard on the deck with the sail furled. Now he suggests that the ladder with its obvious rungs on which the armed man stands is a duplicate yard. I must ask him to explain the significance of the vertical lines obviously intended to depict the rungs of a ladder, and also to explain why, if the man is climbing up the reversed yard, only about 20% of the 'yard' projects forward of the mast.

Mr Dolley challenges me on whether or not I accept the consensus of learned opinion on the thirteenth-century date of the Ravenna mosaics. I have never questioned a thirteenth-century date for the mosaics; I simply stated that 'We must definitely have more evidence than that presented by Mr Dolley before it can be accepted as a fact that the Fourth crusade is depicted in the mosaics.' There is no proof that the details of the ships shown are contemporary with the actual mosaics. Likewise there is no proof that the event shown is the Fourth Crusade, and not the First Crusade, a scant 109 years earlier, since the armed Frank is not climbing a reversed yard. The First Crusade could be depicted even though the mosaics have been dated in the thirteenth century.

In my comments I pointed out that with ships of the type shown in the Ravenna mosaics the accepted terminology is to call the forward and larger mast the 'mainmast' and the after mast the 'mizzen mast', rather than Mr Dolley's terms of 'foremast' and 'mainmast' respectively. In defence of this Mr Dolley[1] states: 'I have seen the mosaics with my own eyes and my impression is still that the "foresail" is set.'

Here it is appropriate to refer to the Arab dhow again. The terminology for the masts and rigging of the Arab dhow became firmly fixed by the nineteenth century when French and English sailing ships were still in the Indian Ocean. The same terminology was applied to similar two-masted lateen-rigged ships in the Mediterranean. The French and English officers who wrote about Arab dhows in various journals and books named the parts of the dhows in a manner which seemed logical to them.

Thus they called the forward mast of two-masted Arab dhows the 'mainmast'. There are several obvious reasons why this was logical. In the first place, the forward mast was always considerably larger in diameter and taller than the after mast. More important than this was the fact that when only one sail was set, it was always the forward sail. A boat of the design of an Arab dhow or the 'nef' of the Ravenna mosaics could not be sailed with only the after sail set. Thus the forward sail by necessity becomes the 'mainsail'. To the best of my knowledge this terminology has never before been challenged. Admiral Paris, Sir Alan Moore, James Hornell and Commander Alan Villiers have all followed it in writing about ships of this particular design. Obviously the terminology does not necessarily apply to galleys, or to ships where the forward mast is smaller.

In reference to the Ravenna mosaics it is extremely interesting to note that in with the one craft shown under way only the forward sail is set, while the after sail is shown furled on the raised yard, just as on many dhows today. In one of the mosaics the forward mast is taller; in the other the two masts are about the same height. The man shown in the mizzen top of the Ravenna mosaic bears a striking resemblance to certain thirteenth-century Arab manuscripts showing ships. In Bibliothèque Nationale MS. arabe 5847, f. 119v. a man is shown in a mizzen top with only the

1 *Ibid.*

mainsail set. In tenth-century Arab manuscripts this look-out is frequently mentioned, and was known as *al-didban*.[1]

There is one other striking similarity between the Ravenna mosaics and certain modern Arab dhows. It should be noted that the forward masts on both Ravenna ships are sharply raked forward, while the after masts are vertical. This same arrangement of masts is found in the Eastern Seas only on Persian Gulf and Gulf of Oman vessels. On dhows from the Red Sea and the Gulf of Aden the after mast is strongly raked forward at about the same angle as the forward mast. The rake of the forward mast can be traced back to the eighth- or ninth-century Boro Budur sculptures in the East.

There have been several interesting points demonstrated in this controversy on medieval warships. The first is that even with pictorial evidence there can be a difference of opinion among experts as to what the pictures actually show and as to what the artist meant to depict: (1) do the Ravenna mosaics show a man climbing up a reversed yard or a ladder? (2) do the ships of grec. 510 have their yards hung from the centre or from a point forward of the centre? Even my printed words have been distorted to read what they do not say. Thus the reader should be able to see how unwise it is to take a text written 1000 years ago in another language and deduce any radical change in ship design by assuming dimensions for five or six variables.

RICHARD LEBARON BOWEN, jr.

THE QUAKER AND HIS PRIZE MONEY

Family trees with their long horizontal lines, and names of generations long departed, and mostly forgotten, make dull reading.

But occasionally one does come across happenings, which may perhaps be of some little interest outside the family: for example, in a torrent of names I read this simple statement:

> Anne Head b. 1758, m. John Warder,
> emigrated to Philadelphia 1785, d. 1829.

John Warder was a London merchant and ship owner, and among his activities had an interest in a ship named the *Nancy*, which set sail in March 1781 on a trading voyage, her Captain being Samuel Smith, John Warder's trusted friend and partner.

Both Anne and John Warder were strict members of the Society of Friends, and one can imagine their horror and consternation when John Warder received a message from Captain Smith informing him that, on his own responsibility, he had taken out Letters of Marque and Reprisal entitling him to use the *Nancy* as a Privateer.

The communication went on to say that joining forces with another privateer, he had captured a Dutch East Indiaman, homeward bound—the *Amsterdam's Welvaren*—and had brought her into Limerick where she had been condemned as a prize. He also informed John Warder that his share of the prize-money would be round about £2000.

No doubt John Warder's immediate reaction was to refuse to have anything to do with such ill-begotten gains, but he hesitated, was lost, and hastened to insure his share with Lloyds.

This happened during the war between England and America, when Holland was in alliance with the latter.

As things turned out, the captured East Indiaman bound to an English port, coming round the south-west coast of Ireland was caught in a gale, driven on to the rocks and was a total loss.

John Warder drew his marine insurance: £1833. 3*s*. 9*d*. net.

Yes, and then John Warder's troubles really started. The whole affair became known to the Trustees of the Society of Friends at Devonshire House, who demanded that the money should be handed over to them, and that when peace was made with Holland, the money should be given

1 For a reproduction of this manuscript and mention of the look-out, see G. F. Hourani, *Arab Seafaring* (Princeton, 1951).

to the owners of the Indiaman, and those interested in her cargo. We need not go into the prolonged disputes and correspondence.

In 1785, the Warders, finding things were getting too difficult, emigrated to Philadelphia, and in 1799 John Warder executed a Deed of Trust and handed over the sum of £1833 odd to the Devonshire House Monthly Meeting. At long last his conscience was at rest.

Up to 1818, £3385. 6*s*. 11*d*. had been paid away to settle Dutch claims, but nevertheless the principal 'by careful investment' stood at about £3500.

Finally in 1830, no more claims coming in, the Trustees, doubtless with joy, handed over the principal (further increased) to found an Infant School for the City of Amsterdam to which port the captured ship had belonged.

I have before me an architect's drawing of a house in the Beeren Straat, Amsterdam, which is the headquarters of the Infant School Society.

On the gable head a ship swings on the weather vane and two shields display the initials J.W. as a memorial of the captured ship—the *Amsterdam's Welvaren* and, I must admit, the somewhat reluctant benefactor John Warder.

F. C. PRIDEAUX NAISH

THE STRAIGHT CHINESE 'YULOH'

It was most interesting to see a discussion of the Chinese 'yuloh' as used in Hong Kong in the February issue of *The Mariner's Mirror*, 1954. Having just returned from three years' research among the fishermen of Hong Kong, I have been somewhat disturbed to find no description of this type of 'yuloh' in any of the usually accessible English literature on Chinese nautical matters. The bent 'yuloh', as described by Sir Frederick Maze and Mr Worcester, is unknown in Hong Kong waters, and none of the Hong Kong fishermen to whom I showed pictures of it had seen one. The straight 'yuloh', which Colonel Dimmock describes, is the one they use. It is also the one used in Macao and farther south and in the waters of the Pearl River, as witness my own informants and also all the pictures of junks with 'yuloh' in the illustrated catalogue to the Chater collection. As Colonel Dimmock points out, however, the design of the 'yuloh' varies in different parts of China (and Japan). It would be an interesting piece of research to discover and plot the actual distribution of the various types.

Colonel Dimmock's description of the Hong Kong 'yuloh' is admirable as far as it goes, though I should say from my own experience that the lashings are more usually of rattan than of copper wire, except on the largest junks. It is true that the smaller 'yuloh' are sometimes pressed into service as oars used in the fore part of the vessel, but this is unusual. Much more commonly these sweeps are specially made for use as oars. They have a small cross-bar for 'handle' and are hung as described by Colonel Dimmock. The operator faces forward and stands up as a general rule, though it is not uncommon to see a Hong Kong sampan (pilot boat) under way with 'yuloh' at the stern and a young girl rower seated forward and facing astern. The Chinese themselves use different words for 'yuloh' and 'yuloh-ing' and for 'oar' and 'rowing'. It is worth mentioning that not all Chinese craft in Hong Kong waters use the 'yuloh': certain very fast open boats manned by Hoklo fishermen from the borders of Kwangtung and Fukien use oars (standing and facing forward) only.

The handling of the straight type of 'yuloh' is certainly different from that described for the bent type by Sir Frederick Maze and Mr Worcester. In Hong Kong one never sees the operator pulling on the lanyard, and the whole movement does appear to the observer as simply the 'working from side to side' (or, rather, one might say 'backwards and forwards') mentioned by Colonel Dimmock. Actually the movement, which is usually, though not necessarily, done with both hands, is performed with a marked flexion of the wrists which move downwards as the loom is pushed away from the body and up again on the return. Thus the blade is made to move almost in a figure of eight. Greater power is obtained not so much by stronger pushing with the arms, which in fact move but little, but by throwing the body weight forward and back with each stroke, the feet being placed a little apart, one before the other, for this purpose. The operator

stands facing athwart the craft, usually looking outwards, but on the larger junks projecting planks may be laid across the gunwales so that several operators may work the 'yuloh' together, some facing inwards and some outwards. On the small dinghy-like sampan the operator stands, or sits, on the stern boards facing half-forwards, as a general rule.

On these small dinghy-sampans, as well as on the slightly larger passenger sampans, the thole pin on which the 'yuloh' swings is placed well to the port side at the stern. Sometimes the thole pin is built into a projection on that same port side. Larger craft, such as lighters, have two 'yuloh', one on either side of the stern. On junks the thole pins are also fixed on either side, usually not over the stern itself but on projections placed well towards the stern, though they may be much farther forward.

As for the difficulty of using the 'yuloh' I can say from experience that it is exaggerated. The physical effort demanded is not great, the rhythmic forward and backward movement of the body being the secret of saving energy and the reason why Chinese boatmen are able to keep on 'yuloh-ing' for hours at a stretch. The actual wrist movement required is a knack fairly easily learnt, and once learnt never forgotten. At first the difficulty is to keep the 'yuloh' on its pin, but once the lanyard can be kept at full stretch the trick is learnt. A skilled operator can 'yuloh' without the lanyard, but the effort demanded must be greater, for this is never done for long distances. Obviously the full command of the knack of 'yuloh-ing' is required only by the operator working alone or leading a group of workers on a single loom. Subordinates need only to keep pace. In fact, however, the Chinese waterman or woman who cannot 'yuloh' does not exist. The relative ease of the operation is demonstrated by the skill of the watermen's children: a six-year-old will normally be able to manage a dinghy-sampan alone quite adequately; a ten-year-old has full skill, lacking only strength. Small children often have to reach above their heads to manage the loom, and they can be seen almost running backwards and forwards across the vessel to raise sufficient pressure against the blade.

Colonel Dimmock suggests that the advent of outboard motors and impellers may lead to the disappearance of the 'yuloh' from practical use. I dispute this. To-day in Hong Kong, though it is true that outboard motors are forbidden (for fear of fire in the crowded anchorages), mechanization with diesel engines is proceeding apace for all types of craft above the sampan, and the use of motor launches to tow lighters in the harbour area is now the general rule. Yet 'yuloh' are still used for manoeuvring in confined space even by the largest junks. Some of the smaller in-shore fishermen use their new diesel engines only for travelling to and from the fishing grounds, preferring still to perform the actual fishing operations under 'yuloh'-power, which they claim, rightly or wrongly, to be less disturbing to the fish and also more efficient in narrow spaces. Thus even large mechanized craft retain their 'yuloh' for occasional use, while for the small dinghy-sampans and passenger sampans, as well as for that vast army who cannot afford engines, the 'yuloh' is no more likely to be completely replaced than is the oar or the pole or the paddle for similar small craft in the West.

Indeed, why should it be replaced? It is not only just as economical of money but even more economical of energy than its Western counterparts. I well remember sitting with a group of fishermen on a junk and watching a couple of British service-men struggling to manoeuvre a small (British type) dinghy against a strongish head wind by 'skulling over the stern' in the ordinary European way. 'Very hard work,' was the comment 'what a pity they don't have a *proper* "yuloh".'

BARBARA E. WARD

QUERIES

21. (1954.) Steamer *Jardine*. There is a short note in the *Mariner's Mirror* on p. 52 of Vol. xxx which mentions the steamer *Jardine*. Can any of your readers give further details of this interesting vessel? S. J. THOMSON

22. (1954.) Models. About two years ago an excellent model of the frigate *Wappen von Hamburg III*—(see *M.M.* Vol. xxxiv, 1948, no. 3, p. 155 and p. 307; *M.M.* Vol. xxxv, 1949, no. 1, p. 76) was returned to Hamburg from the United Services Museum in London. The original ship came from Spain—July 1728—and was docked in H.M. Dockyard at Portsmouth for repairs to her keel by the aid of a certain merchant Hermann Lüis from London.

Can any of your members give me further information respecting this docking and the damages?

23. (1954.) Naval operations. Information is also sought on any literature relating to the following Naval Operations of the British Navy against the German Coast:

(*a*) 1809: from Basis Heligoland against the batteries of Cuxhaven (Fort Napoleon and the Arsenal).

(*b*) 2 August 1811: attack against the Isle of Norderney (H.M.S. *Quebeck* under Blyth)—see Catalogue Macpherson, Collection 1928, p. 66, no. 199.

(*c*) 28 July 1812: attacks of a number of British Gunboats against the Isle of Spiekerroog—Landing of troops (see *M.M.* Vol. xxi, 1935, p. 333).

(*d*) 1812: operations of British Navy against Riga-Dünamunde (Baltic Sea) against the French Navy in Russia (see Forester, *Hornblower, Commodore*).

(*e*) 1814: attack of British warships under Sir John Marshall against the City of Hamburg and the French Army in that town under Marshall Davout.

24. (1954.) Admiral Sir John Marshall. Is it possible to get information about the British Admiral Sir John Marshall—*c.* 1812 or 1814—from *Naval Biographical Dictionary 1849*? (There is no possibility of getting this book in any library in Berlin.)

25. (1954.) Correction to query: *M.M.* Vol. xxxvi, 1950, no. i, p. 96: The name of the German writer is: 'Theodor Fontane' (not only Theodor). F. JORBERG

26. (1954.) Bomb-ketches. Can any reader tell me?—

(1) Of any book or MS. in which I can find lists of equipment, stores, and rigging (including sizes of rigging) for bomb-ketches, *c.* 1688–1760.

(2) If there is any known formula for calculating the dimensions of the spars of a bomb-ketch apart from the formula for masting a ketch contained in Sutherlands *Shipping Unvailed* of 1711.

(3) Decisive evidence for the use of a chain mainstay and the topmast placed abaft the lower masthead in *English* bomb-ketches.

(4) Of any reliable picture or engraving of an English bomb-ketch of the first half of the eighteenth-century. DAVID C. WRAY

27. (1954.) Warships built at Ipswich. Can any member tell me which builders at Ipswich constructed the 6th-rate *Bideford*, in 1740, and the bomb-ketch *Granado*, in 1742?

28. (1954.) H.M.S. *Terrible* (1762). This seventy-four was launched at Harwich. In February 1763, the *Ipswich Journal* announced that 'H.M.S. *Terrible*...is found unfit for service, and is now breaking up at Chatham'. Was this so?

29. (1954.) Launching ways. Apparently considerable difficulty was experienced in launching the East Indiaman *Earl of Abergavenny* at Harwich in 1789. After several attempts, the launches were dismantled in order to discover the cause of friction. A piece of rope was found under one of the bilgeways, and, under the other, a quantity of sand, which, to quote the *Ipswich Journal* (22 August 1789), 'had settled on the sliding planks, where the standards of the stern stays were

hove down about an hour before the launch'. Can any member please explain the latter part of this quotation?

30. (1954.) Timber rafts at sea. One of the Ipswich newspapers in 1775 published an advertisement to the effect that some timber had been lost at sea 'out of a Raft of Memel-Timber . . . off Woodbridge Haven . . .'. Salvors were asked to communicate with either of two merchants, in Ipswich and Harwich respectively. In the latter town he was, I believe, a shipbuilder. Was it usual for timber to be floated round the coast in rafts at this time?

31. (1954.) Corn shipped in bulk. Eighteenth-century corn hoys seem to have been frequently, if not invariably, fitted with 'room boards' in their holds. Was this because their cargoes, or part of them, were shipped in bulk? Granaries of the period were often equipped for 'spouting' corn into vessels lying alongside, and the phrase 'a Chamber Corn Screen and a long one for shipping corn' appears in a newspaper of the time (*Ipswich Journal*, 6 October 1781).

H. W. MOFFAT

ANSWERS

141. (1911.) Case-sails, stunsails and bonnettes en étui. In the first volume of the *M.M.* (p. 223) attention was drawn to a mention in Chambers's *Encyclopaedia* of 1738 of 'case-sails' in the sense of stunsails. The writer asked for other instances of this term and for an explanation, but got very little satisfaction.

The simplest explanation would be to look on 'case' as a misprint for 'chase'. I am sure I have seen the expression 'chasing sails' used for stunsails, but I must admit that I cannot give my authority. As an alternative it may be pointed out that 'case-sails' is practically a translation of the French 'bonnettes en étui' which also means stunsails, though no one knows why.

So far, so good, but in earlier French we find 'bonnette sous l'estouin' or even 'estouin' alone used in the same sense. To one with no claims to a knowledge of etymology it seems that both 'étui' (in this connexion) and 'stun' may well be derived from 'estouin'. Weekley confirms this guess and goes on to suggest that there may have been a form 'stunsel' an English diminutive of 'estouin', and that 'studding sail' may be 'a meaningless elaboration'.

The objection to this seems to be that the form 'studding sail' appears before 'stunsail'. Manwayring and the anonymous author of the Treatise on Rigging of similar date (1625) both mention 'studding sails'; Blake and Deane use the same form in 1649 and so do various seventeenth-century lists of stores; while we find 'stoytene salis' in Lowland Scots in 1549 and 'steddying saills' in English a little earlier (Oppenheim, p. 54). I do not know when the form 'stunsail' first appears, but should be surprised to find it before 1700 or even 1800. If only we knew that 'stunsail' was the original form and 'studding sail' merely an expansion, we could be confident of the derivation from the French 'estouin', simply because this is the only word with a suitable meaning anything like it. No other language gives any help; German, Dutch, Danish and Swedish all have something very like 'lee-sails', while Spanish, Portuguese and Italian offer a variety of words nearly as difficult to explain as 'bonnettes en étui'. These languages, by the way, all use one name for a lower stunsail and quite another for those above it.

As if these difficulties were not enough, English provides several presumably corrupt forms. 'Steering sails', which Falconer describes as 'a most contemptible conceit without either authority or reason to support it', had been used by Sturmy in 1669, just 100 years before the appearance of Falconer's *Dictionary*, and must have been fairly well known, since Falconer himself admits that it was 'adopted by many officers'. 'Stern sails', an obvious misnomer, seems to have been a further corruption of 'steering sails', but the equally inappropriate form 'stormesail' found in Deane's manuscript of 1670 may have been due to a mistake in transcription; it can hardly have been in general use. Smyth writing in 1867 says that 'the term scudding sails was formerly used', but this suggests a sort of 'wishful thinking' to provide a derivation; the use of the form 'studding sails' seems to have been standard practice for at least 200 years, from 1625 to 1825.

R. C. ANDERSON

6. (1954.) MONITORS. In reply to Mr Anderson, there were two other monitors besides the ones mentioned which bore American names and their story is of some interest; not many British warships have had so many changes in name as this series, particularly in such a short space of time.

Soon after war began in August 1914 three monitors which were building at Barrow for the Brazilian Navy were purchased by the Government—these became H.M.S. *Humber*, ex *Javary*, *Mersey*, ex *Madura* and *Severn*, ex *Solimoes*. These vessels were at first officially classed as gunboats but this was soon altered to monitors—one presumes that the hand of Mr Churchill appeared here with his love for precise description which in the later war revived for us the classifications of corvettes and frigates.

Our agents in America negotiated for the purchase of various munitions and among the goods on offer for immediate delivery were some 14 in. guns which had been built for the new Greek battleship *Salamis*. These guns were purchased, and in November 1914 four vessels of the monitor type were designed to carry them, being primarily intended to operate in the shallow waters off the Flanders coast. The ships were provisionally named *Farragut*, *General Grant*, *Robert E. Lee* and *Stonewall Jackson* and their contractors were Harland and Wolff for three ships and Swan Hunter for the last one.

The subsequent history of the ships is as follows:

Farragut was soon renamed *Admiral Farragut*, renamed M. 1 on 18 March 1915, Admiralty no. 472. Launched 15 April 1915, renamed *General Abercrombie* in June 1915, renamed *Abercrombie*, probably in 1916. She was commissioned 12 May 1915.

General Grant was named M. 2 in March 1915, Ad. no. 473, was launched after five months' building on 29 April 1915 and commissioned 25 May 1915. Renamed *General Havelock*, which was later shortened to *Havelock*.

Robert E. Lee was renamed M. 3, launched 29 April 1915, Ad. no. 476. Renamed *Lord Raglan* in June 1915 and *Raglan* on 22 June 1915.

The three afore-mentioned ships were built at Belfast by Harland and Wolff, being laid down in November 1914.

The final vessel, *Stonewall Jackson*, was renamed M. 4, launched at Wallsend by Swan Hunter in June 1915 and renamed *Lord Roberts*, later abbreviated to *Roberts* on 22 June 1915.

This class took apparently a maximum of seven months to build and commission, which is quite a remarkable feat for 6000-ton vessels. The first two were sold in 1927 and *Roberts* in 1936; *Raglan* was sunk by the German-Turkish battle-cruiser *Goeben* and light cruiser *Breslau* at Imbros on 20 January 1918.

Ten further vessels of a similar type, though of varying dimensions, were ordered in December 1914 and were numbered M. 5 to 14, being given the names of generals in 1915, four of them foreign generals, namely *Prince Eugene* and *Prince Rupert*, which had of course also British associations and *Marshal Ney* and *Marshal Soult*, in compliment to our French Allies. All these ships carried a pair of either 12 in. or 15 in. guns, being surplus battleship guns in stock.

Smaller monitors were ordered in 1914/15 to carry 9·2 in. or 6 in. guns and were numbered M. 15 to M. 33, which numbers they retained to the end of the war so that the names M. 1 to M. 14 were blank from 1915 until the 'names' M. 1 to M. 3 were allocated to the new submarine monitors, formerly of the L. class. After the war four of these light monitors were named *Medusa*, *Melpomene*, *Minerva* and *Claverhouse*.

Further large monitors were also acquired during this war. *Glatton* and *Gorgon*, building for Norway when war broke out, were requisitioned in April 1915, but work was suspended and only resumed in September 1917, being completed in 1918. *Erebus* and *Terror* were ordered in 1915 and commissioned in 1916 and of course lasted until the late war, in which they served to some effect. All of these four vessels carried 15 in. guns but, as far as I can ascertain, were never given 'M' numbers.

W. J. STEEPLE

REVIEWS

Deep Sea Sailing. By Erroll Bruce. Hutchinson and Co., Scientific and Technical Publications, London and New York. 1953. 9×6 *inches*. 82 *illustrations, diagrams, maps and tables*. 18*s*. net.

This book is concerned entirely with the technique of crossing wide oceans in very small sailing yachts, a sport which was perhaps 'invented' by Joshua Slocum in 1895. Many amateur seamen have since helped to develop it and some, such as Erling Tambs, have made successful voyages with an astonishing lack of preparation, relying largely on faith. Erroll Bruce stands at the opposite extreme. A regular Naval officer, he has approached the subject with a determination to leave nothing to chance. A large part of the book consists in visualizing, quite calmly, the worst mishaps that can occur at sea, and in suggesting how adequate counter-measures can be rehearsed and put into practice. In this respect it must be by far the best and most elaborate treatise ever written, and remarkable in that it very seldom trespasses on to ground already covered by John Illingworth's *Offshore*, published in 1949. The latter deals exhaustively with the mechanics and technique of racing a small yacht offshore, and with the art of designing a boat so as to gain the greatest advantage from the rules of measurement which govern handicap racing. Lieut.-Commander Bruce concentrates far more on questions of general seamanship, bad weather, emergency repairs, and above all how to train an amateur crew to a high standard of efficiency and keep it there. As such, his book concerns the cruising yachtsman at least as much as the offshore racing enthusiast, and should also be of technical interest to any student of sailing vessels and seamanship under sail, since the author has ample experience of the best modern practice and draws many comparisons with the past.

Many of his arguments are well supported by quotations from other experienced deep sea sailors, but are quite free of dogma and set down in a clear, concise style with few superlatives but with an occasional flash of wit which could perhaps have been allowed freer play. Some readers may feel that the Royal Navy has crept a little too far into what is essentially a civilian occupation. For example, the discipline of a thirty-foot yacht need not seriously be jeopardized if an order is prefaced by a Christian name instead of the stilted 'Mr Mate', and many readers will prefer to side with Sir Joseph Porter on the use of 'if you please', not for the purpose of implanting a 'particularly gentlemanly tone' but as a means of lubricating the wheels of what is basically a voluntary as opposed to a compulsory discipline. Another respect in which the book falls short of perfection is in the proof-reading, which has overlooked a number of obvious misprints, and in the weird system of numbering figures, tables, and plates, which has in several places defeated the publishers as well as the reader. Nevertheless, these figures and photographs are in themselves excellent, and there is a good index. The book will stand as a classic in its own field, and is good value for money.

H. G. HASLER

Tobacco Coast: a maritime history of Chesapeake Bay in the colonial era. By Arthur Pierce Middleton, Ph.D. The Mariners' Museum. $8\frac{1}{2} \times 5\frac{1}{2}$ *inches*; 482 +xii *pages*; 28 *illustrations and maps*. Postpaid $5.00.

'130-ton *Charming Betty*, belonging to James LaRoch & Company,...entered (Chesapeake Bay) in 1750 with 280 Negroes from Africa.' Waterfowl on the Tidewater in the seventeenth century were so plentiful that 'Smith and two companions in a small boat off Kecoughtan brought down 148 with three shots.' And as for sturgeon: one day 'two gentlemen' caught over 600 'with hooks'.

This is a very serious and lovingly compiled treatise on a region blessed with more natural assets for human exploitation than any other in the whole world. In less than 100 years from

Red Indian scratch it was worth over £1 m. to England. 'Neither do I think', wrote Alsop, 'there is any place under Heavenly altitude, or that had footing or room upon the circular Globe of this world, that can parallel this fertile and pleasant piece of ground in its multiplicity, or rather Natures extravagancy of a super abounding plenty.' About 200 years after this was written, the author of this review explored part of the tidewater on foot and understands the great affection with which Dr Middleton must have approached his grand subject and the great difficulty he faced of sorting out its delightful woods from its no less delightful trees. Were it not for his versatility, one would be forcibly reminded of Jane Austen, in love only with Chawton and its gentry, being invited to be voluminous about a Teutonic royal house and its imperial adventures. Dr Middleton's passion for The Bay is as unconfined, so it appears, as the indulgence of his publishers. But, besides being heartily grateful for it, one must, as a reviewer, ask to be forgiven if one is diverted, so to speak, from the open bay of the subject into the many charming rivers and creeks of the tidewater. Unlike Jane Austen, Dr Middleton seems as much at home parochially as imperially, with duck's eggs up Wormley's Creek as with the effect of the collapse of the Mediterranean Grain market in 1766 on the Tidewater Tobacco Trade. But reviewers are more narrowly human. This one was so captivated with the thought of a 'flight of ducks near the head of the bay estimated... to be a mile square and seven miles long' that he was willing, if necessary, to forgive and forget about King Charles I having 'made the blunder of separating the Chesapeake region into two unnatural divisions'. Do readers of *The Mariner's Mirror* know that 'sailors in the Slave Trade were sickly and yellow in their faces when they survived at all'? Do they realize that George Washington operated a herring and shad fishery in 1760 and a cloth factory in 1767/8, and that this latter employed one hired white woman and five slave girls in spinning and weaving 815¾ yards of linen and 1355½ yards of woolen linsey and cotton for Washington's own use? What a network of creeks! And in case mariners are beginning to suspect that there is nothing for the wet-bobs, one can assure them here and now that Dr Middleton's love for and knowledge of the sea and ships and the floating traffic of his beloved bay is as infectious through this book as all other departments of his prolific passion. One does not have to know poop from forecastle to marvel at a Chesapeake clipper-schooner described as 'a trim rakish craft, with a smooth underbody, considerable deadrise, deep drag of keel aft, low freeboard and a minimum of standing rigging'. But in the late seventeenth century, one is enchanted to discover, a blasphemer in Maryland was liable to have his tongue bored three times and heavily fined (*blasphemer, no doubt, and not his tongue*) and 'would have been well advised to hold his tongue in Maryland and save his profanity until he got to Virginia. For in the latter colony, by the acts of 1691 and 1696, the fine for swearing, cursing or profaning God's name was only one shilling, although in 1699 it was raised to five shillings.' If King Charles I had not made his blunder, would Chesapeake blasphemers have been better or worse off all told? It is a point on which one was surprised Dr Middleton did not discourse. It would have been as delightful a creek as all the others.

JOHN USBORNE

NARRATIVE OF THE EXPEDITION TO THE CHINA SEAS AND JAPAN UNDER COMMODORE PERRY. Ed. by S. WALLACH. 1954; Macdonald. 9×6 *inches*; 305 *pages*; *illustrated*. 25*s*.

No voyage in modern times has been fraught with greater political consequences than Commodore Perry's visit to Japan in 1853. Although his name is familiar to us all, few have had the opportunity of reading the remarkably interesting account of his expedition, because the original three volumes are exceedingly scarce. Mr Wallach's centenary abridgement is therefore welcome. It omits the parts dealing with the early history of Japan, about which little was known at that date, but it preserves in its entirety the narrative of the expedition, the description of the country and the fascinating story of how Perry's firmness in negotiation overcame all the evasive tactics of the Japanese to preserve their policy of seclusion. Perry's relation to the Rev. Hawks, the author of the official account, resembles that of Cook to Canon Douglas: he supervised the compilation of

the narrative from his own journal and that of other officers. The result retains the stamp of his personality as an empire builder, and some of the sentences read ironically to-day: 'Let those who are older kindly take her (Japan) by the hand and aid her tottering steps, until she has reached a vigor that will enable her to walk firmly in her own strength.'

A good portrait of Perry is provided in the introduction, and Mr Wallach very properly underlines the analogy between American-Russian rivalry at that date and at this. But far too many references are left unexplained (e.g. what did Pellew do in 1808 which so much annoyed the Japanese?), and there is a lack of historical perspective in which the process of opening up Japan is presented. To write of the events of 1853 without reference to the First China War is to ignore the relationship of the great powers in the Far East. The British certainly welcomed Perry's move: as the Foreign Secretary wrote, 'H.M. government would be glad to see the trade with Japan open; but they think it better to leave it to the government of the United States to make the experiment, and if that experiment is successful, H.M. government can take advantage of its success.' It was four years before they did so, because the Crimean War intervened, but within a few months of Perry's treaty both Russian and British admirals (Poutiatine—here spelled Pontiatine—and Stirling) had obtained privileges which fell little short of what Perry had wrested from an unwilling government with his 'black ships of evil mien'. Every government used the method of 'cruiser diplomacy' in those days, and Perry's handling of it is only remarkable for his firmness, his restraint and his success in a mission for which he was himself entirely responsible.

CHRISTOPHER LLOYD

THE VOYAGE ALONE IN THE YAWL *ROB ROY* by JOHN MACGREGOR. Introduction by ARTHUR RANSOME. No. 24 in the Mariners Library, Published by Rupert Hart-Davis, London. $7\frac{1}{2} \times 5$ *inches*; 214 *pages, illustrated.* 9*s.* 6*d.*

This is the latest volume in the Mariners Library series, that very nicely produced and cheap collection of reprints of well-known books on maritime subjects.

This particular reprint is John MacGregor's account of his voyage from London to Paris via Le Havre and back to the Thames via Le Havre and Cowes. This undertaking was carried out in 1867 and in those days to cross the Channel at all was quite an adventure, but to do so in a 22 ft. yacht single handed was practically unheard of, it was, therefore, only right that at the successful conclusion of such a voyage a book should be written describing it all.

In spite of what many people to-day might consider very small beer in the way of difficulties and adventures, this cruise makes exceedingly good reading; the style of writing dates it, naturally, but it also adds to the interest and the few illustrations, woodcuts, are most suitable to the letter press. At the beginning is a slightly theatrical photograph of the author but it is very typical of the period and fits in very well with the rest of the book.

There is a very pleasant introduction by Mr Arthur Ransome, which gives the reader a very good idea of the sort of man John MacGregor was, a man who liked the limelight but was quite conscious of the fact and liked it very largely for the help it gave him in collecting large sums of money for the many charities he was very practically interested in.

Whatever else *Rob Roy* did or did not do, he founded the Royal Canoe Club and largely showed the way to cruising in quite small vessels without any paid hands, therefore this book should appeal to all amateur sailors who are cruising men or women at heart. This volume like its predecessors is very nicely got up, with good clear print and nice paper, it is of the usual handy size, which enables it to be slipped into a pocket if a book for 'dipping into' is wanted.

H. O. HILL

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